

Final Examinations

Model Exam (1)

Answer the following questions:

Question 1:

A. Replace each of the following statements by a scientific term:

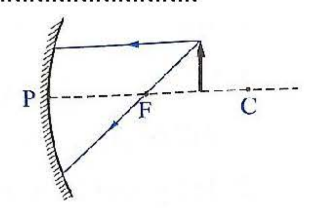
1. The change in the position of an object by the time relative to a reference point.
(…………………………………………)
2. It contains the Sun and the solar system.
(…………………………………………)
3. The mid-point on the reflecting surface of the mirror.
(…………………………………………)
4. The part in the cell which is responsible for cellular division.
(…………………………………………)
5. The incident light ray, the reflected light ray and the normal line all lie in the same plane perpendicular to the reflecting surface.
(…………………………………………)

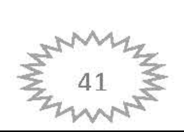
B. Compare between:

1. Distance and displacement in terms of definition and type of the physical quantity.
………
………
………
2. Galaxy and solar system in terms of definition.
………
………
………

C. Draw the figure in your answer paper, then:

1. Complete the path of the incident rays on the mirror from the object.
2. Mention the characteristics of the formed image and its position. ………………………………………







Question 2:

A. Correct the underlined words:

1. The spindle fibers in the animal cell is formed from **condensing the cytoplasm.**
(..)
2. The lens is a transparent medium that **reflects** the light.
(..)
3. In plane mirror the object distance from mirror is **larger than** the image distance.
(..)
4. **Asexual** reproduction is a source of genetic variation.
(..)
5. The Sun takes about **250** million years to complete one rotation around the center of the galaxy.
(..)

B. What is meant by ... ?

1. A car moving at a uniform speed = 80 km/hour.
....
2. The focal length of a concave mirror =7 cm.
....
3. The average speed of a moving car 70 km/hour.
....

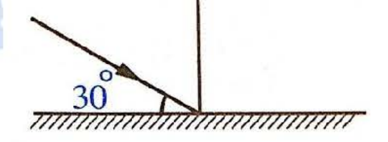
C. Within 2.5 seconds the speed of a car increases from 20 m/s to 25m/s, while a bike moves from rest and its speed reaches 5 m/s in one second. Calculate the acceleration of the car and the acceleration of the bike?
....
....



Question 3:

A. Choose the correct answer:

1. Examples of scalar's physical quantities…………………..
   - a. mass & force.
   - b, force & acceleration.
   - c. mass & distance.
   - d. force & time.
2. The two gases which produced galaxies, stars and universe through millions of years are ………………
   - a. oxygen & helium.
   - b. helium & hydrogen.
   - c. oxygen & carbon dioxide.
   - d. helium & carbon dioxide.
3. …………………………reproduces by budding.
   - a. Amoeba
   - b. Starfish
   - c. Sponge
   - d. Mushroom
4. A light ray falls on to a plane mirror as in the figure it reflected, where the reflection angle equals…………….
   - a. 30
   - b. 60
   - c. 20
   - d. 90



5. The universe contains ………………….
   - a. galaxies & stars.
   - b. planets and moons.
   - c. living organisms.
   - d. all the previous.

B. Give reasons for:

1. On their flights, pilots take into consideration the velocity of the wind.

………



2. The universe is in continuous expansion.

………

3. Cataract disease infects the eye.

………

C. The opposite figure represents one of the division phases:

1. What is the name of this phase and the type of division?

……………………………………………………………………………………………

2. What is the name of next phase that follow it.

……………………………………………………………………………………………

Question 4:

A. Complete the following sentences:

1. The ……………………… scientist established the modern theory of evolution of the solar system.
2. Measuring the relative speed depends on the position of the ………………… who determines the magnitude of this speed.
3. The Egyptian scientist Mustafa El Said discovered a way to detect the cancer cell by using ………………………
4. A short-sighted person needs a medical eye glasses with ……………. lenses.
5. The chromosome chemically consists of nucleic acid called DNA and …………………

B. What happens when… ?

1. A light ray passes through the optical center of a convex lens.

………

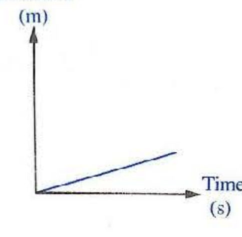
2. The nebula gradually lost its heat (from point of view of Laplace scientist).

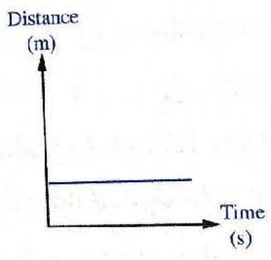
………

3. A plane mirror is placed at the left side of the driver instead of the convex mirror.

………

C. Describe the motion of the object in each of the following graph:







Model Exam (2)

Answer the following questions:

Question 1:

A. Complete the following sentences:

1. Speed measuring unit is ……………….,while the measuring unit of acceleration is ……………………
2. The crossing over phenomenon occurs in …………….of ………………………division.
3. ……………………… and ……………………..are types of spherical mirrors.
4. The Sun and the planets revolving around it, rotate around the center of ………………… galaxy.
5. Force is a …………………….. physical quantity, while mass is a …………………….physical quantity.

B. What's meant by…?

1. Angle of incidence.

……

2. Regular (uniform) speed.

……

3. The pole of the mirror.

……

C. A car starts movement from rest until its speed reaches 25 m/s after 10 seconds.

1. Calculate the value of acceleration.

……

2. What kind is the acceleration? ……………………………………………………………………………………………

Question 2:

A. Write the scientific term for each of the following statements:

1. The combination of the male gamete and the female gamete to form zygote.
(……………………………………….)
2. A disease that infects the eye lens and it becomes opaque.
(……………………………………….)
3. A vector quantity that equals the displacement in one second.
(……………………………………….)



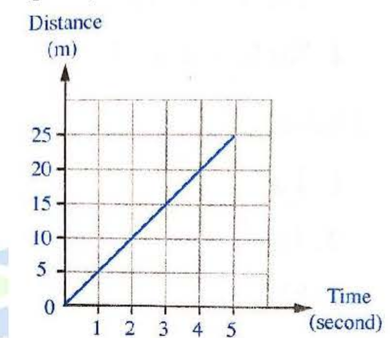
4. Ability of animals to compensate their missing parts.
(…………………………………………)
5. The distance that light travels in a year.
(…………………………………………)

B. What happens in the following cases?

1. If an object moves at a regular speed, what is the value of its acceleration?
………
2. When there is elongation in the ball of the eye.
………

C. An object moves according to the graphical relation shown in the opposite figure, calculate:

1. The speed of the object's motion and mention its kind.
……………………………………………………………………………………………
2. The time that the object takes to cover a distance of 15 meters.
……………………………………………………………………………………………
3. The distance that the object covers in 4 seconds.
……………………………………………………………………………………………



Question 3:

A. Choose the correct answer:

1- human being stood in front of a plane mirror at a distance of 2 meters, so the distance between him and his image is ……………………………….

a. 1 meter.
b.2 meters.
c. 3 meters.
d. 4 meters.

2. Meiotic division in flowering plants occurs in the anther to produce ……………………….

a. ovum.
b. chromosome.
c. pollen grains.
d. sperm.



3. Within minutes of the Big Bang, the percentage of hydrogen in the universe was……………….
   a. 25%
   b. 50%
   c. 75%
   d. 100%
4. If the speed of a car is 36 km/h , it means that its speed is …………………………m/sec.
   a. 10
   b. 20
   c. 40
   d. 80
5. The spindle fibres appears during the cell division through the ………………………..
   a. telophase.
   b. interphase.
   c. prophase.
   d. metaphase.

B. Give reasons for:

1. The moving car seems stable to the observer who moves at the same speed and direction.
   ……
2. The cell passes through interphase before starting meiotic division.
   ……
3. Pilots take in consideration the velocity and the direction of the wind.
   ……

C. In the shows figure:

C F F C

1. Complete the ray to get the image.
2. Mention the properties of the image.
   ……

Question 4

A. Correct the underlined words:

1. The lens is a transparent medium that **reflects** the light and defined with two spherical surfaces.
   (…………………………………………)



2. If the object's speed decreases by time, it is called **acceleration.**
(……………………………………….)
3. Amoeba reproduces by **Budding.**
(……………………………………….)
4. **Mitotic** division leads to form gametes.
(……………………………………….)
5. The scientist who found the modern theory about the evolution of the solar system is **Laplace**.
(……………………………………….)

B. Mention one usage for each of the following:

1. The speedometer.
……
2. Nano-molecules of gold.
……

C. "Two cells divide, one in a human female stomach and the other in her ovary" Mention:
1. The type of the division in each of the two cells.
……
2. The number of the cells produced from the stomach cell division.
……





Model Exam (3)

Answer the following questions:

Question 1:

A. Choose the correct answer:

1. Amoeba reproduce by …………………
   a. binary fission.
   b. gametes.
   c. regeneration.
   d. budding.
2. Scientists believe that the matter of the universe was a ……………………ball of high pressure and high temperature.
   a. liquid
   b. solid
   c. gaseous
   d. no correct answer
3. When an object is placed between the focus of a convex lens and its center of curvature, the formed image will be ………………….
   a. real, inverted and diminished.
   b. real, inverted and magnified.
   c. virtual, erect and magnified.
   d. virtual, erect and diminished.

B. Mention the name of the scientist who:

1. Put the nebular assumption theory about the evolution of the solar system.
………
2. Discovered a way to use Nano-molecules of gold to detect the cancer.
………
3. Used the way of concentrating the Sun rays to destroy the Roman fleet in 212 B.C.
………



C. In a race, a runner moves at a regular speed of 10m/sec, from the start of the race to the fifth second and there was a car that moves beside him, the speed of the car increases from zero to 25 m/sec. in 5 seconds also.

(a) Draw a graph (speed - time) and record on it.

(1) the movement of the runner.

(2) the movement of the car.

b) Use the previous graph to calculate:

(1) the distance covered by the runner.

(2) the time in which the speed of the runner is equal to the speed of the car.

Question 2:

A. Write the scientific term of the following:

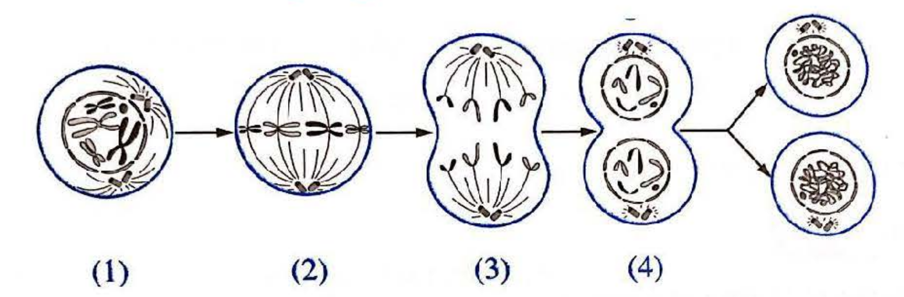
1. Fibers extend between the two poles of the cell in prophase.
(…………………………………………)
2. The change in the position of a body by the time related to the position of another body.
(…………………………………………)
3. The image that cannot be received on the screen.
(…………………………………………)
4. A theory assumed that the solar system was originally a big star which is the Sun.
(…………………………………………)

B. Mention the importance for the following:

1. A convex mirror is put at the left side of the driver of the car.
………
2. The direction of the wind affects the velocity of aircraft (plans).
………



B. Look at the following figure, then answer the following:



1. What is the kind of cell division in this figure?

....

2. What is the name of phase number (2) and (3)?

....

3. What will disappear in phase number (1)?

....

Question 3.

A. Give reasons for:

1. In short-sightedness, the retina is far from the eye lens.

....

2. The importance of interphase in the cellular division.

....

3. The object which moves at regular speed, its acceleration equals zero.

....

4. The constancy of the planets in their orbits around the Sun.

....

B. What happens when... ?

1. If the liver gets injured or a part of it is cut.

....

2. A light ray passes through the optical center of the lens.

....



C. Two trains move parallel to each other but in opposite direction the speed of the first train 65 km/h. and the speed of the second train is 85 km./h. Calculate the speed of the first train that observed by passengers in the second train.

……

……

Question 4:

A. Correct the underlined words:

1. **The force** is the length of the shortest straight line between two positions.
(……………………………………….)
2. It is a cell produced due to fertilization called **tetrad.**
(……………………………………….)
3. **The lion** is considered one of the fastest wild animals.
(……………………………………….)
4. The chromosome chemically consists of nuclear acid called DNA and **starch.**
(……………………………………….)

B. What is meant by … ?

1. Crossing over phenomenon.
……
2. Vector physical quantities.
……

C. Show by drawing the pass and the directions of rays to an object in front of a concave mirror at a distance greater than double focal length, knowing that its focal length is 0.025 m, then determine the properties of the formed image.





Model Exam (4)

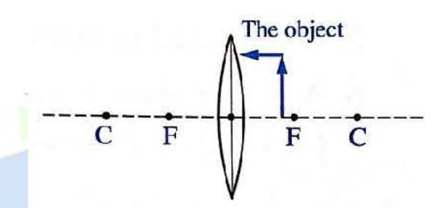
Answer the following questions:

Question 1:

A. Complete the following statements:

1. The crossing over phenomenon occurs in ……………………of first meiosis division.
2. The solar system consists of a number of ………………………. planets revolve around the Sun.
3. The physical quantity that its magnitude and direction are necessary for identifying it is called ……………………………
4. The combination of the male gamete and female gamete to form the zygote is known as …………………………….
5. A concave mirror has a focal length of 20 cm, then the radius of curvature of its spherical surface equals ………………………
6. The space which contains all the galaxies, stars, planets, moons, living organisms and everything is called ………………………

B. From the opposite figure:



Complete the figure to get an image for the object.
and mention its properties of the formed image.
………

C. What happens in the following cases…?

1. Increase the diameter of the eyeball from the normal state.
………
2. If the body cuts the same distance in half the time (to the speed of a body).
………

Question 2:

A. Correct the underlined words of the following:

1. The universe emerged from the particles of **oxygen** and hydrogen.
(………………………………………)



2. Form the properties of the image formed by the plane mirror is **real , inverted,** reversed and equal to the object.

(……………………………………….)

3. The chromosome consists of two chromatids connected together **at the cytoplasm**.

(……………………………………….)

4. **The irregular speed** is the value of displacement at a unit time and is a vector quantity.

(……………………………………….)

5. Form speed measurement units are **meter / second²** or kilometer/hour.

(……………………………………….)

6. **The crossing star** is the largest star that can be seen from the surface of the Earth.

(……………………………………….)

B What is meant by each of the following…?

1. Light reflection phenomenon.

………

2. A car moving at a uniform speed = 80 kms/hour.

………

C. Mention one example for each of the following:

1. Scalar physical quantity. ……………………………………………………………………………………………

2. A living organism reproduces by regeneration. ……………………………………………………………

Question 3:

A. Write the scientific term for each of the following:

1. The value of an object's speed relative to the observer.

(……………………………………….)

2. A flat gaseous round disk that formed the solar system planets according to the perception of "Laplace" scientist.

(……………………………………….)

3. A cell division that occurs in the somatic cells and results in the growth of the living organism.

(……………………………………….)

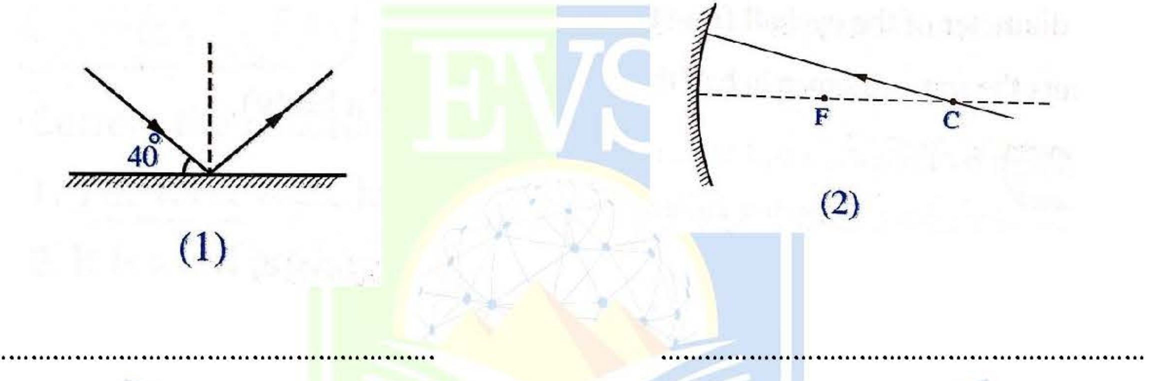
4. The actual length of the path that a moving object takes from the starting point of movement to the end point.

(……………………………………….)



5. It is located in one of the spiral arms of the Milky Way on the edge of the galaxy.
(……………………………………….)
6. A biological process where the living organism produces new individuals of the same kind and thus ensuring its continuity.
(……………………………………….)

B. Calculate the value of the angle of reflection in the following two figures:



…………………………………………………………… ……………………………………………………………

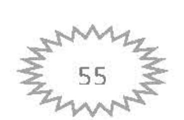
C. Compare between each of the following:

1. The positive acceleration and the negative acceleration according to (the concept of definition).

Positive acceleration	Negative acceleration

2. Real image and virtual image according to (the ability of receiving on a screen).

Real image	Virtual image





Question 4:

A. Choose the correct answer:

1. The founder of modern theory of the solar system is ……………………..scientist.
   a. Moulton
   b. Chamberlain
   c. Fred Hoyle
2. The image formed by using a concave lens is ……………………..
   a. real, enlarged, and inverted.
   b. virtual, smaller and inverted.
   c. virtual, smaller and upright.
3. At the end of this phase, the nucleolus and nuclear membrane disappear from the mitosis division ……………………….
   a. prophase.
   b. metaphase.
   c. telophase.
4. If a light ray falls passing through the optical centre of the convex lens, it leaves the lens ……………………
   a. passing through the focus.
   b. parallel to the principal axis.
   c. without refraction.
5. The continuous expansion of the universe, is due to ………………
   a. separation of galaxies.
   b. approaching of galaxies.
   c. equivalent to galaxies.

B. Give reasons for each of the following:

1. A convex mirror is put at the left side and right of the driver of the car.
……….
2. Occurrence of interphase before starting the mitosis cell division.
……….



C. A racer covered 50 meters northward within 30 seconds then 100 meters eastward within 60 seconds then 50 meters southward within 10 seconds, and then returns back to the start point within 40 seconds:

1. Calculate the total distance that the racer moved.

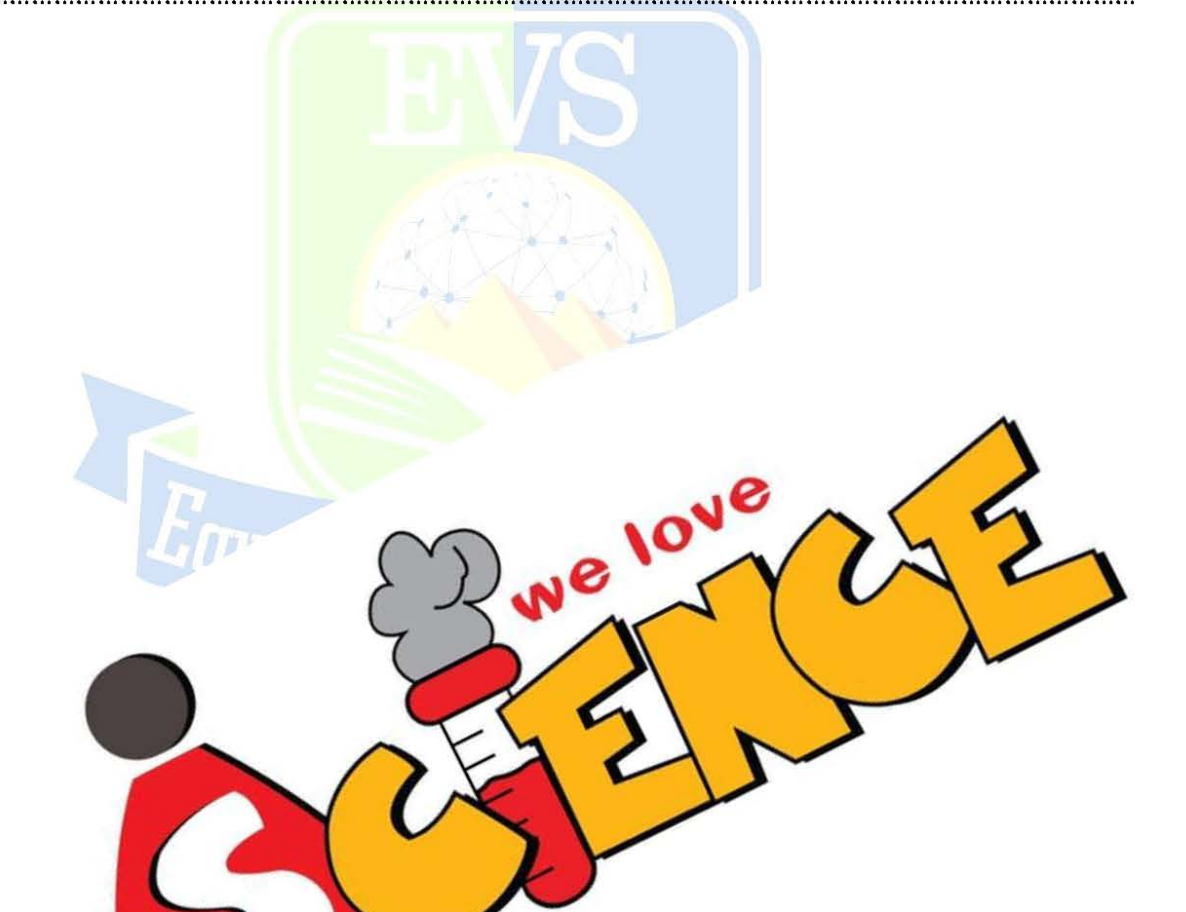
……

2. What is the average speed of the racer?

……

3. Calculate the displacement.

……





Ministry's Examinations

A. Choose the correct answer:

1- The two factors that describe the movement of a body are................
   a. speed and time
   b. distance and time
   c. area and time
   d. displacement and speed

2- The ability of some animals to compensate the missing parts is called ....
   a. regeneration
   b. budding
   c. gametes
   d. cutting)

3- The image of a body formed by the plane mirror is...................
   a. virtual, upright and enlarged
   b. virtual, upright and equal
   c. virtual, upright and diminished
   d. real, inverted and equal

4- The phase in which the genetic material in the cell is duplicated.....................
   a. telophase
   b. interphase
   c. anaphase
   d. metaphase

5- The scientist that established the theory of the nebula is ....
   a. Newton
   b. Einstein
   c. Fred Hoyle
   d. Laplace)

6- If the focal length of a concave mirror is 6 cm, so its radius of curvature is ....
   a. 18 cm
   b. 3 cm
   c. 6 cm
   d. 12 cm



7- Which of the following is considered as scalar physical quantities.......................

a. the radius and the area
b. the time and the force
c. the acceleration and the vector velocity
d. the mass and the displacement

8- The formed image of body placed at a distance less than the double focal length and more than the focal length of a concave mirror is ....image.

a. virtual, enlarged
b. real, enlarged
c. real, diminished
d. virtual, diminished)

9- Meiosis division occurs in cells of the ....

a. Liver
b. Skin
c. Bones
d. Tests

10- The measuring unit of speed is ....

a. Meter
b. Meter/sec.
c. Meter. Sec
d. Meter/sec^2

11- The parental individual disappear when the reproduction occurs in ....

a. starfish
b. bread mould
c. amoeba
d. hydra

B. Give reasons for each of the following:

1- It is difficult for a car to move at uniform speed.

....

2- The distance is a scalar quantity while the displacement is a vector quantity.

....

3- Revolution of the Earth in a fixed orbit around the Sun.

....



4- The incident light ray falls perpendicular on a plane mirror reflects on itself.

…….

5- Concave mirror is called by convergent mirror.

…….

C. Rewrite the following statements after correcting the underlined word(s):

1- The **real** image is that cannot be received on screen.

…….

2- Genes are parts of the DNA that exist in the **cytoplasm** of the cell.

…….

3- Displacement equals the **acceleration** when the body moves in a straight line.

…….

4- Chromosomes are arranged in the middle of the cell in the **telophase.**

…….

5- The yeast fungus reproduces asexually by **binary fission.**

…….

6- The measuring unit of acceleration is **meter/second.**

…….

7- The **average speed** is the speed of a moving body relative to the observer.

…….

8- A **concave lens** is used in treating long-sightedness.

…….

D. Write the scientific term for each of the following:

1- The distance covered in a certain direction from the start point to the end point.
(……………………………………….)

2- The connecting point of two chromatids together.
(……………………………………….)

3- An imaginary point inside the lens that lies on the principal axis.
(……………………………………….)

4- The total distance that a moving object covers divided by the total time taken to cover this distance.
(……………………………………….)



5- The straight line that passes by the center of curvature of the mirror and any point on its surface except the pole of the mirror.

(..)

6- It is located in one of the spiral arms of the Milky Way on the edge of the galaxy.

(..)

7- The ability of some animals to compensate its missing parts by reproduction.

(..)

8- Flat rotating gaseous disc which form the planets of the solar system.

(..)

9- The change of an object's speed in one second.

(..)

10- The straight line that passes by the pole of the mirror and its center of curvature.

(..)

12- Force makes the planets of the solar system remain in their orbits and kept them in continuous rotation.

(..)

13- Physical quantities needed to identify their magnitude as well as direction.

(..)

13- A process in which combination between a male gamete with a female gamete takes place and formation of zygote.

(..)

14- Change of object's position as time passes according to the position of another object.

(..)

15- The line that joins between the two centers of curvature of the lens passing by its optical center.

(..)

16- A process by which the living organism produces individuals with traits differ from parents.

(..)

17- The displacement covered in a unit time.

(..)

18- Chemically consists of nucleic acid called DNA and protein.

(..)

19- A theory explains the origin of the universe since more than 15000 million years.

(..)



20- The speed of an object when it covers equal distances at unequal periods of time.
(……………………………………….)
21- The cell produced from the combination of male gamete and female one.
(……………………………………….)
22- A mirror whose reflecting surface is the inner surface of a sphere.
(……………………………………….)
23- It is the wide and extended space that contains galaxies.
(……………………………………….)

E. Complete the following statements:

1- The image formed by the………………………..lens is always virtual, upright and diminished.
2- The reproduction occurs in yeast fungus by ……………………………. and in the mushrooms by ………………………..
3- The source of genetic variation is the……………………………reproduction.
4- The two gases which produced galaxies, stars and universe through millions of years are……………………and………………………
5- The convex lens……………………. the light while the convex mirror……………………the light.
6- Physical quantities are classified into two types which are………………….. and……………………….
7- The crossing over phenomenon takes place in …………………….. at ………………………. division.
8- The focal length of the convex lens is the distance between ………………… and …………………….
9- The measuring unit of speed is………………while the measuring unit of acceleration is……………….

F. Put (√) or (x) in the front :

1-The acceleration is a vector quantity whose unit is m/s. (……….)
2- The scientist who establishes the nebula theory is Alfred hale. (……….)
3- The image formed by using a concave lens is virtual, upright and smaller. (……….)
4- The unicellular protozoans reproduce by binary fission. (……….)
5- The image formed by plane mirror is real. (……….)
6- Gravitational force of sun controls the rotation of planets around it. (……….)
7- Meiosis division takes place in somatic cells. (……….)
8- The spindle fibers are formed from the centrosome in animal cells. (……….)
9- The formed image by the convex mirror is always virtual and equals to the object. (……….)
10- Hydra and sponge reproduce by budding. (……….)



11- Our galaxy is called Milky Way Galaxy. (……….)

G. Compare between each of the following:

1- Short-sightedness and long-sightedness (in term of definition).

2- Somatic and reproductive cells.

3- Sexual and asexual reproduction.

H. What happens in the following cases…?

1- A light ray falls parallel to the principal axis of a convex lens.

………

I. Problems:

1- If the number of chromosomes in the human liver cell is (46 chromosomes), Find the number of chromosomes in each of the following:

a. Sperm ……………………………………………………….

b. Fertilized ovum ………………………………………….

c. The skin ……………………………………………………

2- Show by drawing only each of the following:

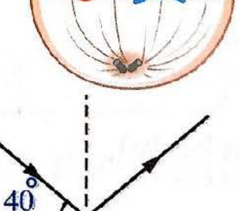
a. A body at rest.

b. The structure of chromosome.

3- The opposite drawing shows one of mitosis phases, answer the following questions:

a. Name of this phase. …………………………………………………………………………………

b. Which of the phase, the spindle fibers disappear. …………………………………………



4- From the shown figure calculate:



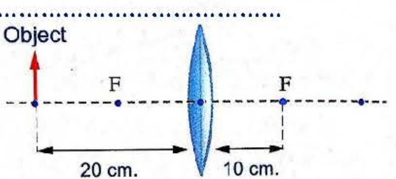
a. Angle of incident. ………………………………………………

b. Angle of reflection. ……………………………………………

5- Complete the drawing then mention the properties of the formed image.



………





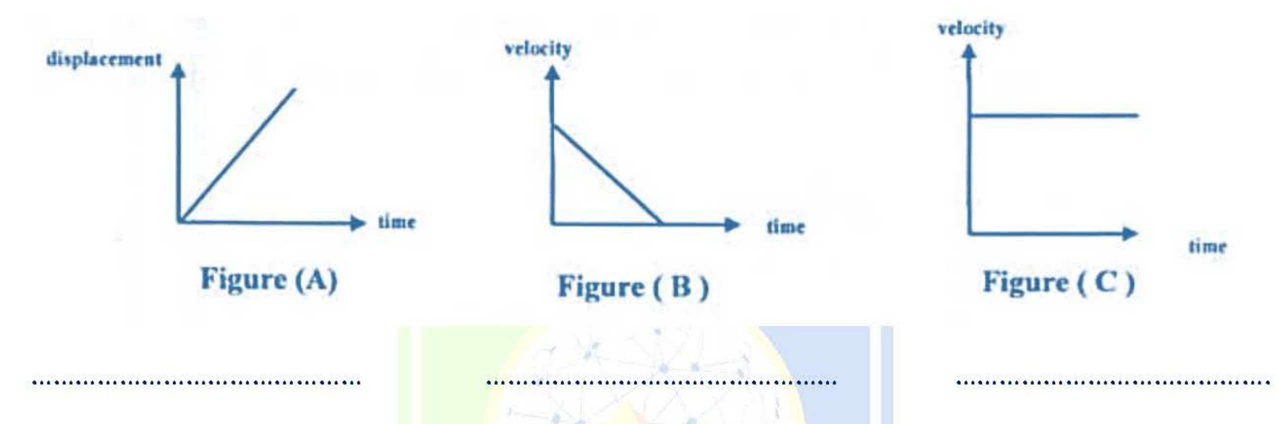
6- Mention the type of reproduction that takes place in:

a. Yeast fungus. …………………………………………………

b. Amoeba. ………………………………………………………

c. Starfish. ………………………………………………………

7- From the shown figures describe the motion of the body in each case.



………………………………… ………………………………… …………………………………

8- Describe the importance of meiotic division.

………

9- A car moves from rest and its speed reaches 42m/sec. in 6 sec.

Calculate:

a. The acceleration by which the car moves.

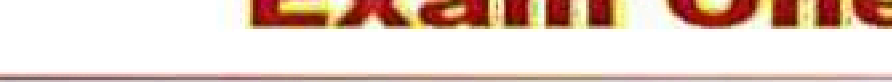
………

b. Mention the type of acceleration.

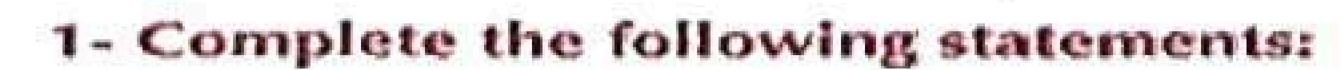


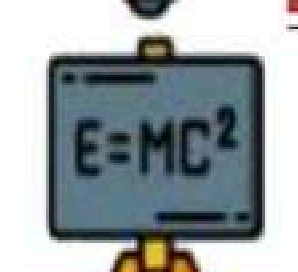
………



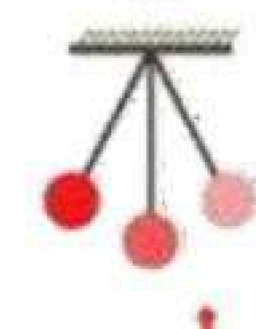



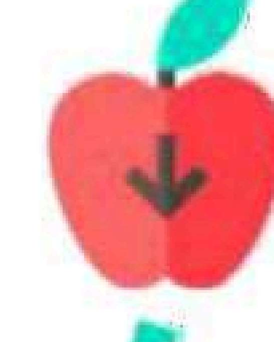
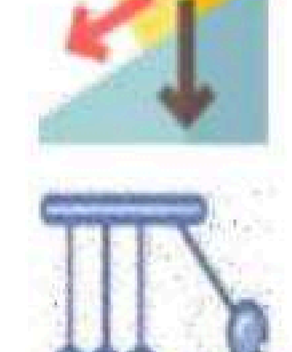
Exam One

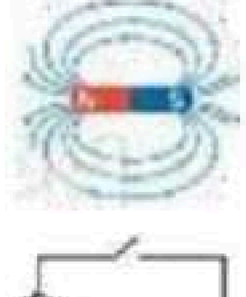











1- Complete the following statements:

a- The measuring unit of the velocity is .... while the measuring unit of the acceleration is ....

b- The somatic cells divide by .... while the reproductive cells divide by ....

c- The crossing over phenomenon takes place in .... phase during .... division.

d- The stars move in fixed orbits around the center of the ....

e- The presence of the moon between the earth and the sun leads to the .... phenomena.

2- Write the scientific term for each of the following statements:

a- A point located inside the lens and lies on the priciple axis and at the middle distance between its faces.

b- A prosess by which the living organism produces individuals with traits differ from the parents.

c- The value of the change in the velocity of the body in one second.

d- The unit which is used for measuring the distance between celestial bodies.

3- A convex lens has a focal length 10 cm, an object was placed at a distance of 20 cm from the lens. Determine the distance of the image from the lens and mention its properties.

4- put the sign (√) in the front of correct statements and correct the incorrect statements.

a- The incident light ray parallel to the principle axis of a concave mirror is reflected passing by the curvature centre of the mirror.

b- The aim of the mitosis division is the formation of gametes.

c- When a moving body covers equal distances in equal intervals of time, it is said that it is moving with uniform acceleration.

5- Give reasons:

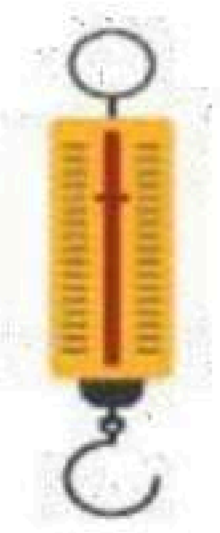
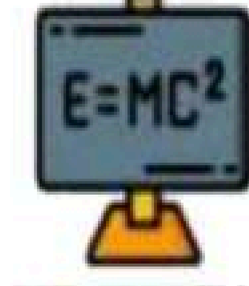
a- The short sighted person.

b- Asexual reproduction produces offspring identical to their parent.

c- The perpendicular incident light ray on the plane mirror reflects on itself.

6- Explain relation between the hereditary structure of offspring and parents in the cases of sexual reproduction and asexual reproduction.

7- A race car can move from rest position and its speed reaches 100 km/hr through 20 seconds. Calculate the acceleration of the car.

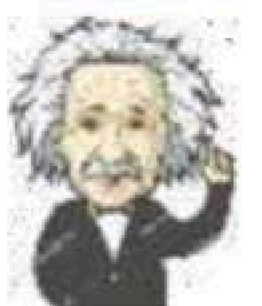






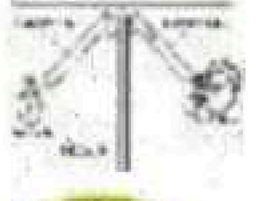
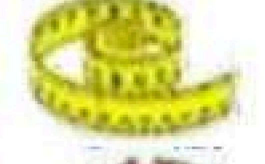

Model Answer



a) m/sec – m/sec^2
b) mitotic cell division – meiotic cell division
c) prophase I – meiotic
d) galaxy
e) cancelled

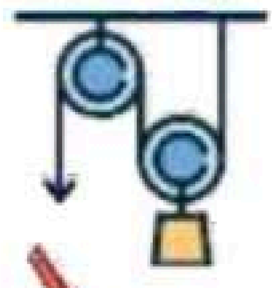

a) the optical center of the lens
b) sexual reproduction
c) acceleration
d) light year

Answer Q3

the distance between the image and the lens = the distance between the object and the lens = 20 cm

the image is real, inverted and equal to the object

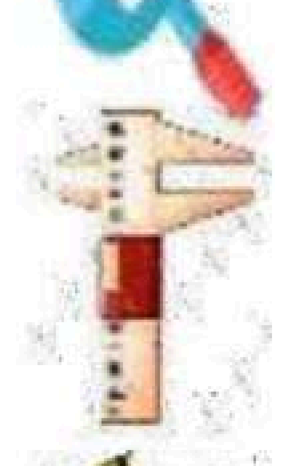
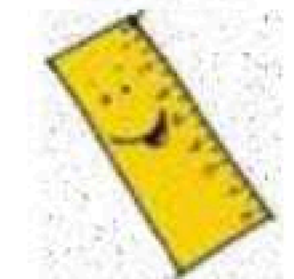
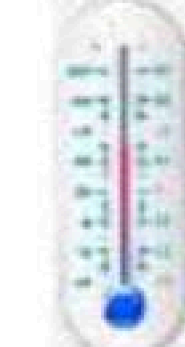



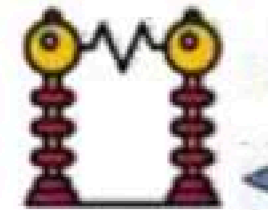
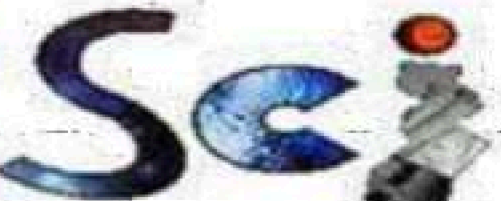
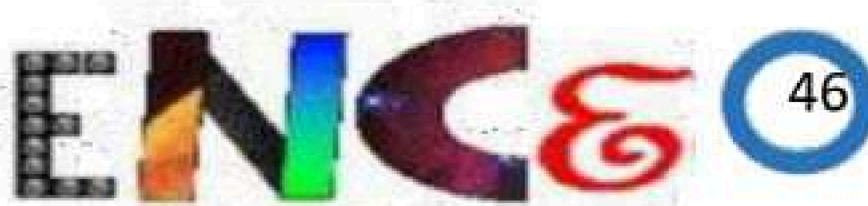
Answer Q4

a) (X) reflected passing by the focus.

b) (X) meiosis

c) (X)uniform speed (zero acceleration)

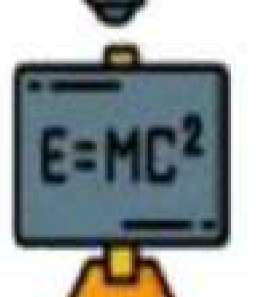









Answer Q5




a) The short sighted person is due to the increase in eyeball diameter or the increase in convexity of the eye lens.



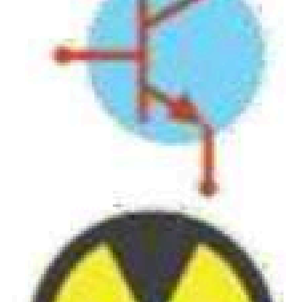

b) Because the produced individuals get a copy from genetic material of the parent individual through mitotic division.

c) Because thr angle of incidence = the angle of reflection = zero°




Answer Q6

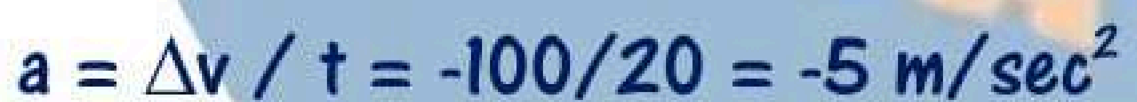
Sexual Reproduction	Asexual Reproduction
The hereditary structure of the offspring is different from that of the parents because the offspring get their genetic traits from two different sources (male and female) And also due to the crossing over phenomenon that occurs in meiotic cell division during production of gametes.	The hereditary structure of the offspring is different from that of the parents because the offspring get a copy of genetic material of the parent individual through mitotic division.



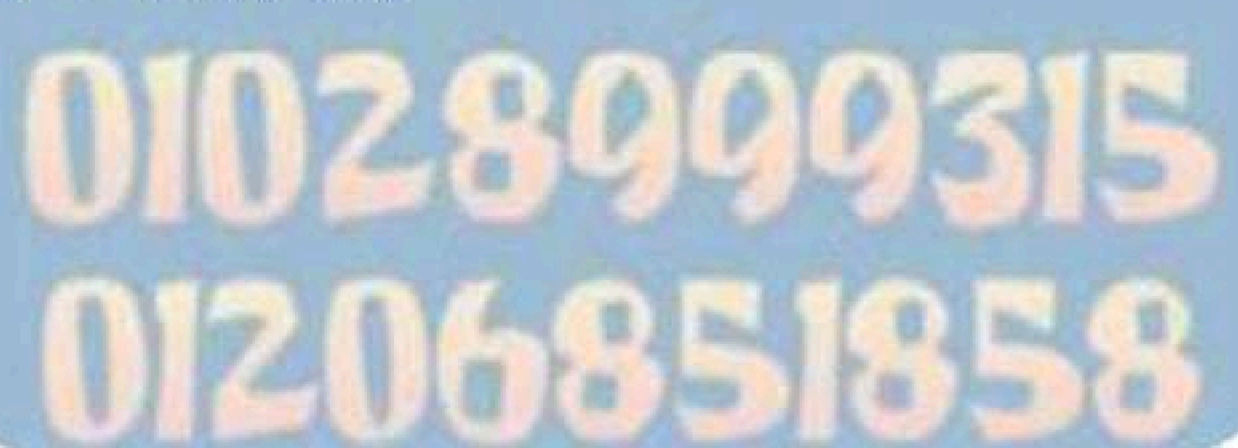
Answer Q7

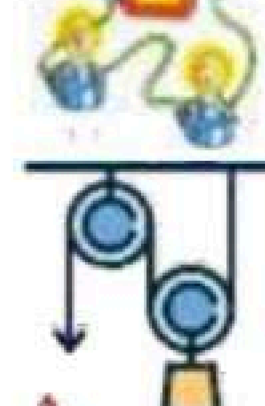
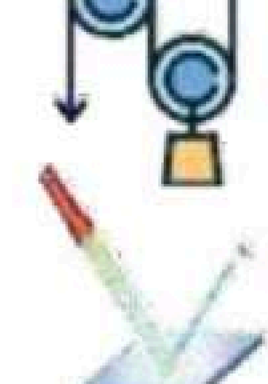
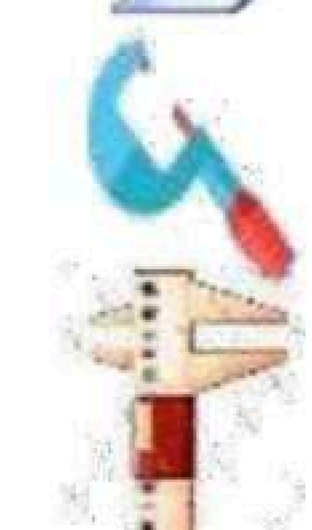
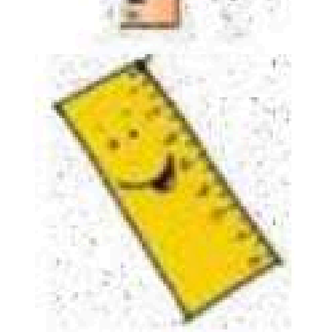
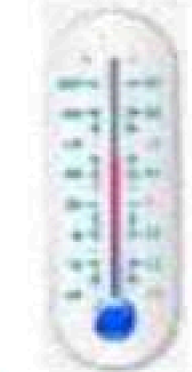


V_1 = zero m/sec V_2= 100 t = 20 sec a=?



$a = \Delta v / t = -100/20 = -5 \ m/sec^2$



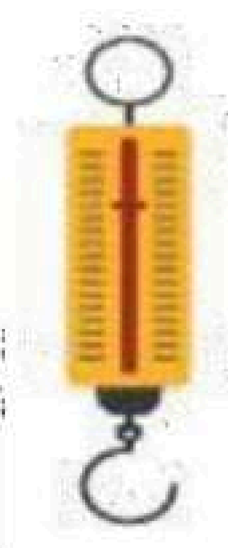

















Exam Two






Answer of the following questions:

Question1:

a- Define each of the following:

1- the speed.

2- the acceleration.

3- the fertilization.

4- the universe.

b- Give reason for the following statements scientifically:

1- The uniform velocity of a car can not be obtained practically.

2- The moving car with a certain speed seems to be at rest to the moving observer with the same speed and same direction.

3- The long sightedness is treated by a suitable convex lens.

4- The lens has two centres of curvatures (C_1, C_2).

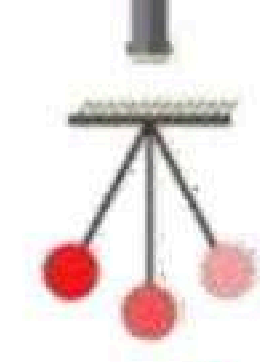
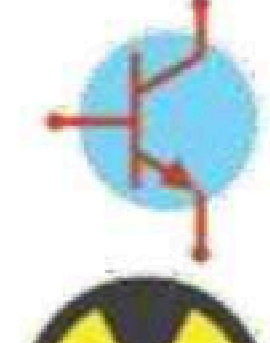
c- Choose the correct answer for the following statements:-

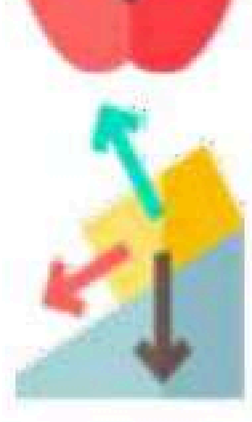
1- An incident ray falls on a reflection surface at angle :

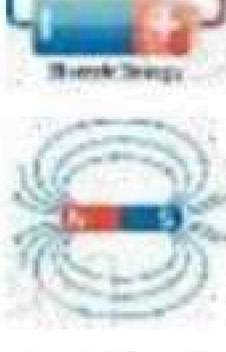
1- Zero	2- 90°
3- 180°	4- 30°

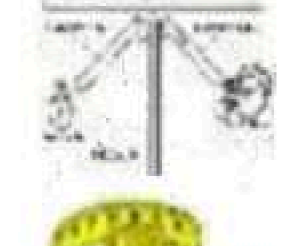
2- If the radius of curvature of a lens equals 20 cm, so its focal length equals.

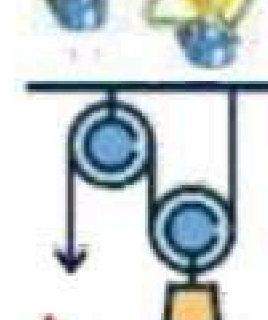
1- 5m	2- 10 cm
3- 20 cm	4- 10 m

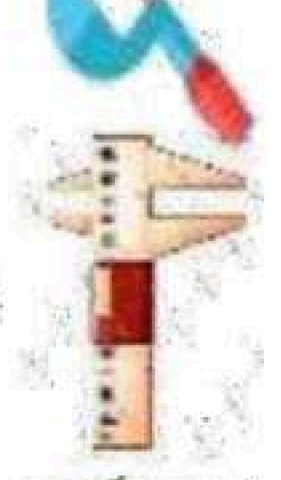
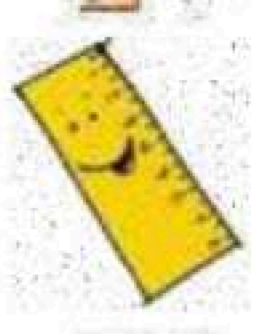




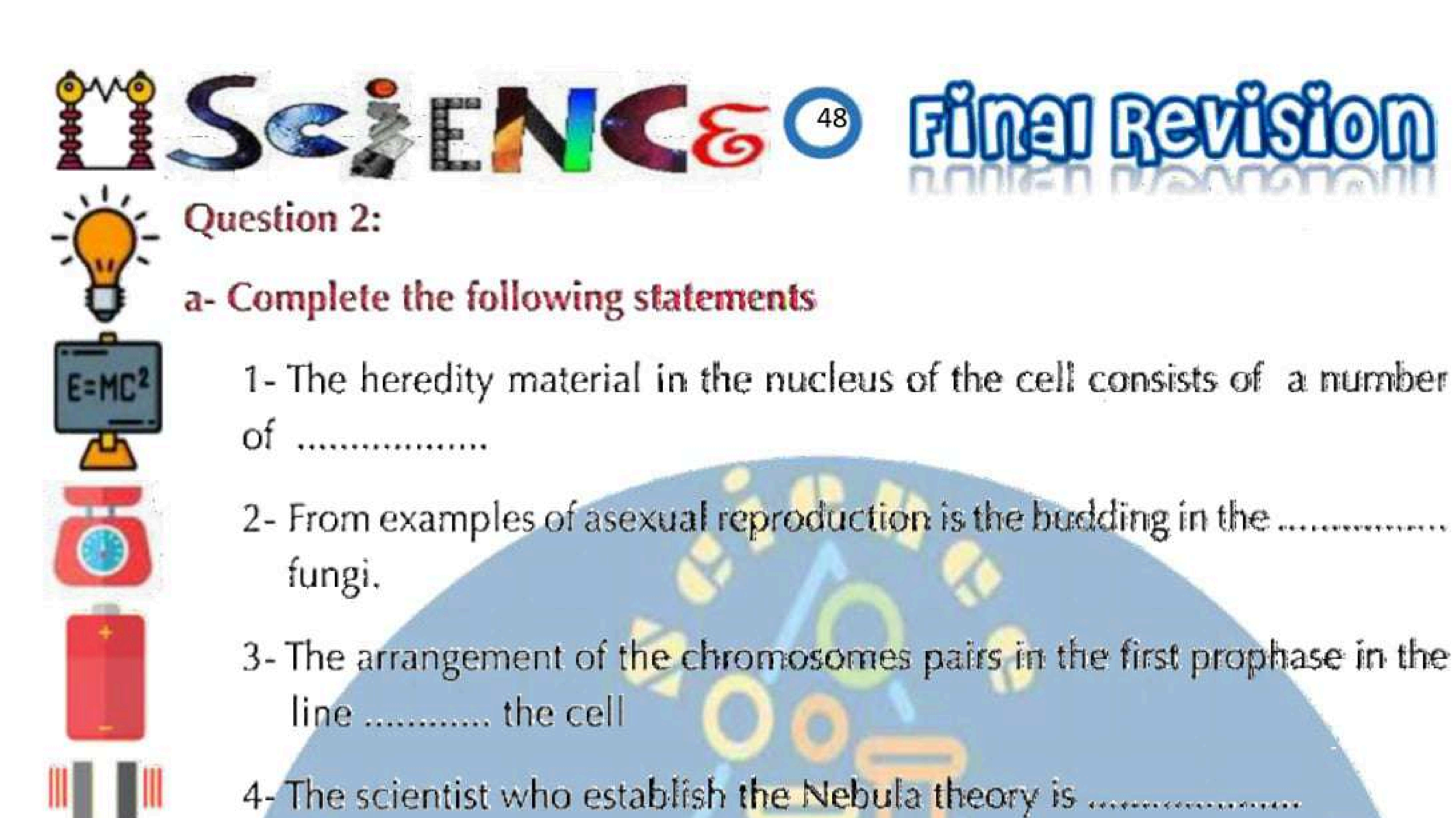


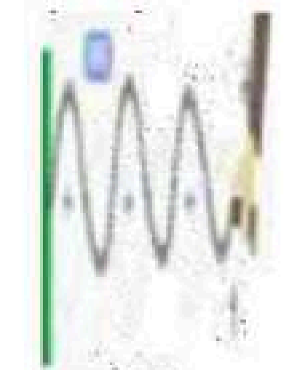


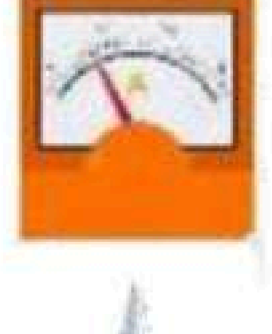


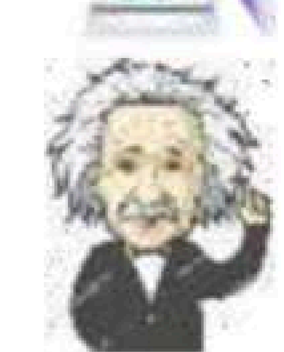








Question 2:

a- Complete the following statements

1- The heredity material in the nucleus of the cell consists of a number of ....

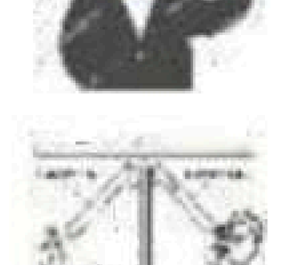
2- From examples of asexual reproduction is the budding in the .... fungi.

3- The arrangement of the chromosomes pairs in the first prophase in the line .... the cell

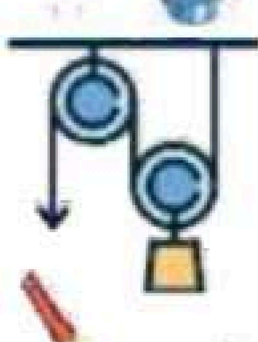
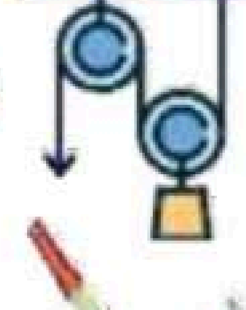
4- The scientist who establish the Nebula theory is ....

b- Draw the figure in your answer paper, then complete to obtain virtual, upright, enlarged image for the obiect(A)








c- Choose the correct answer:

First: the reproduction which considered as a source of genatic variation is a .... reproduction

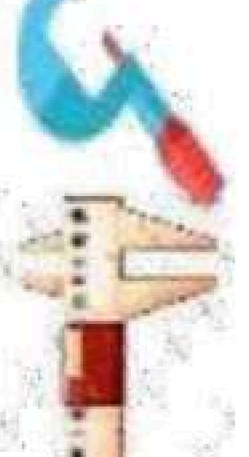
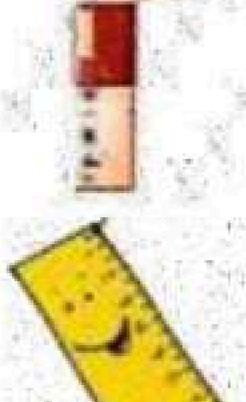
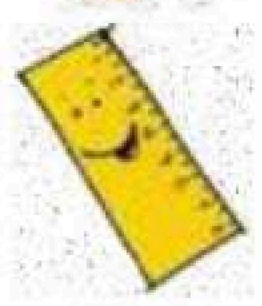
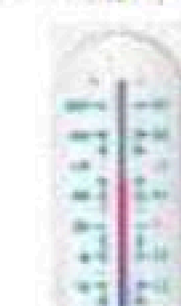
1- budding. 2- vegetative.

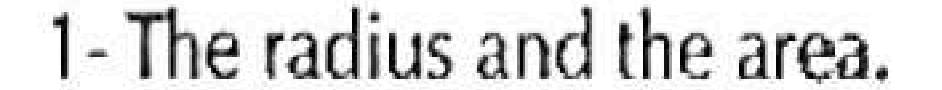
3- sexual. 4- asexual.

Second: the ability of some animals to compensate the missing parts is called ....

1- biological. 2- reproduction.

3- regeneration. 4- budding.



Questin 3 : Which the physical quantities is a scalar quantity

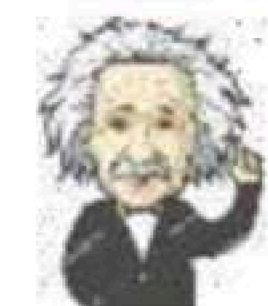
1- The radius and the area. 2- the time and the force.

3- the acceleration and the velocity. 4- the mass and the displacement.



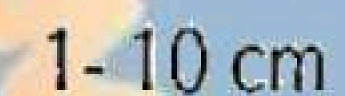
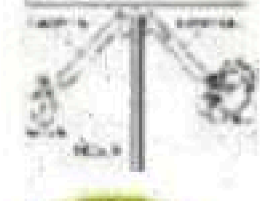
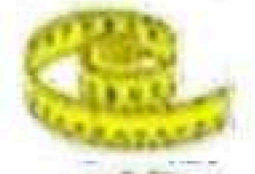
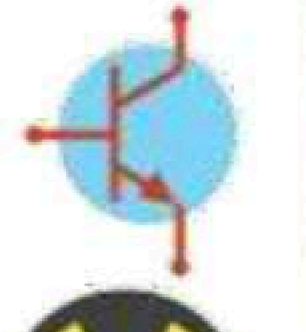
Questian 4:

A lens is placed in front of sun rays, a very small real image for the sun is formed at a distance 20 cm from the optical centre of the lens, if this lens is used to form virtual, upright enlarged image for a body. Which of the following distances from the optical centre is correct?

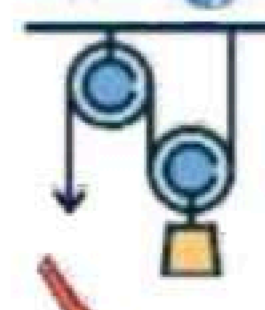
1- 10 cm 2- 20 cm

3- 40 cm 4- 50 cm


Question 5 :

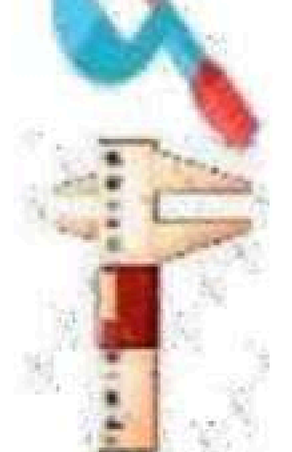
A- Alfred Hale depended on the scientific facts to his assumption about the origin of the solar system




Discuss the statment and explain.

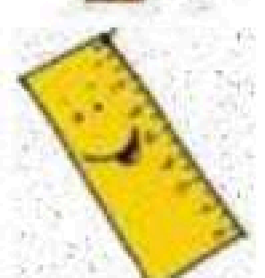
1- the fact with drawing.

2- the hypothsis of Alfred Hale theory.

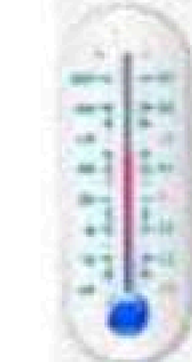


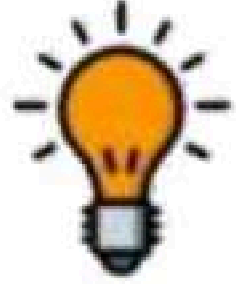
B- Compare between the short and the long sightedness according to :

1- the type of lens which is used to treat each one.

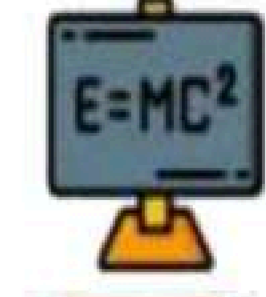


2- the reason of each one.









Answer Q1

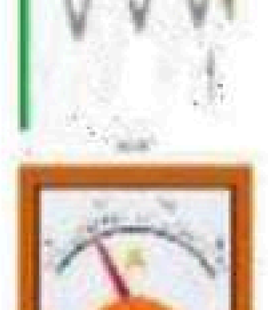
a-

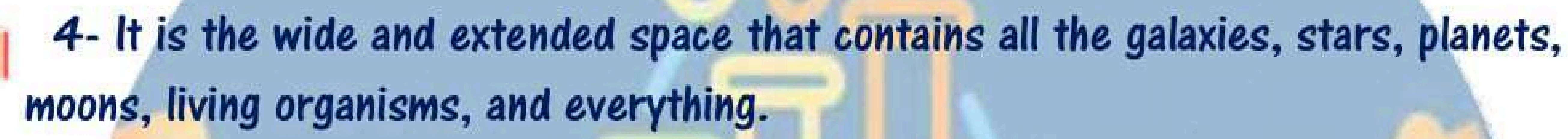
1- It is the distance moved through a unit time.

2- It is the change of an object's speed in one second in a specific direction.

3- It is the combination of a male gamete and a female gamete to form a zygote.

4- It is the wide and extended space that contains all the galaxies, stars, planets, moons, living organisms, and everything.

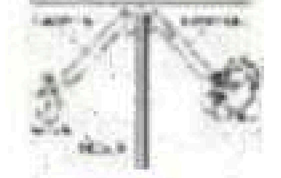
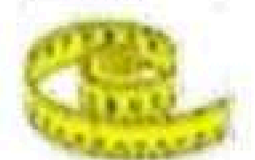




b-

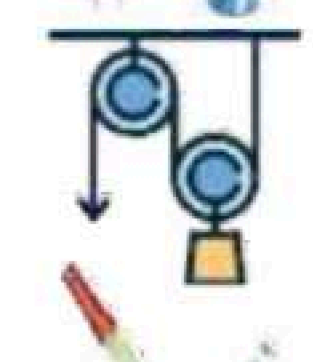
1- Because the car speed changes according to traffic.
2- Because the relative speed of 2 moving objects in the same direction equal the difference between the speeds of the 2 objects.
3- Because convex lens converges (collects) light rays objects before falling on the eye lens so the image is formed exactly on the eye retina.
4- Because the lens has two spherical surfaces.

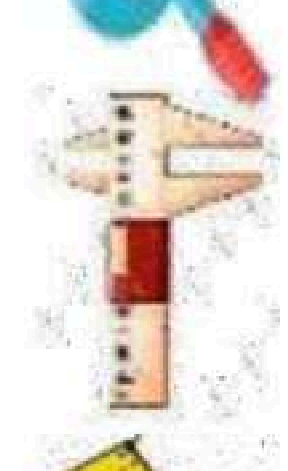
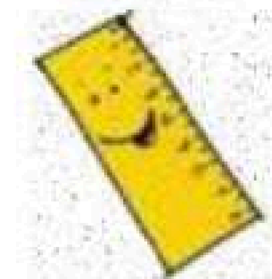
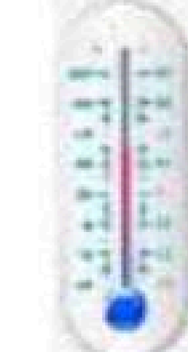


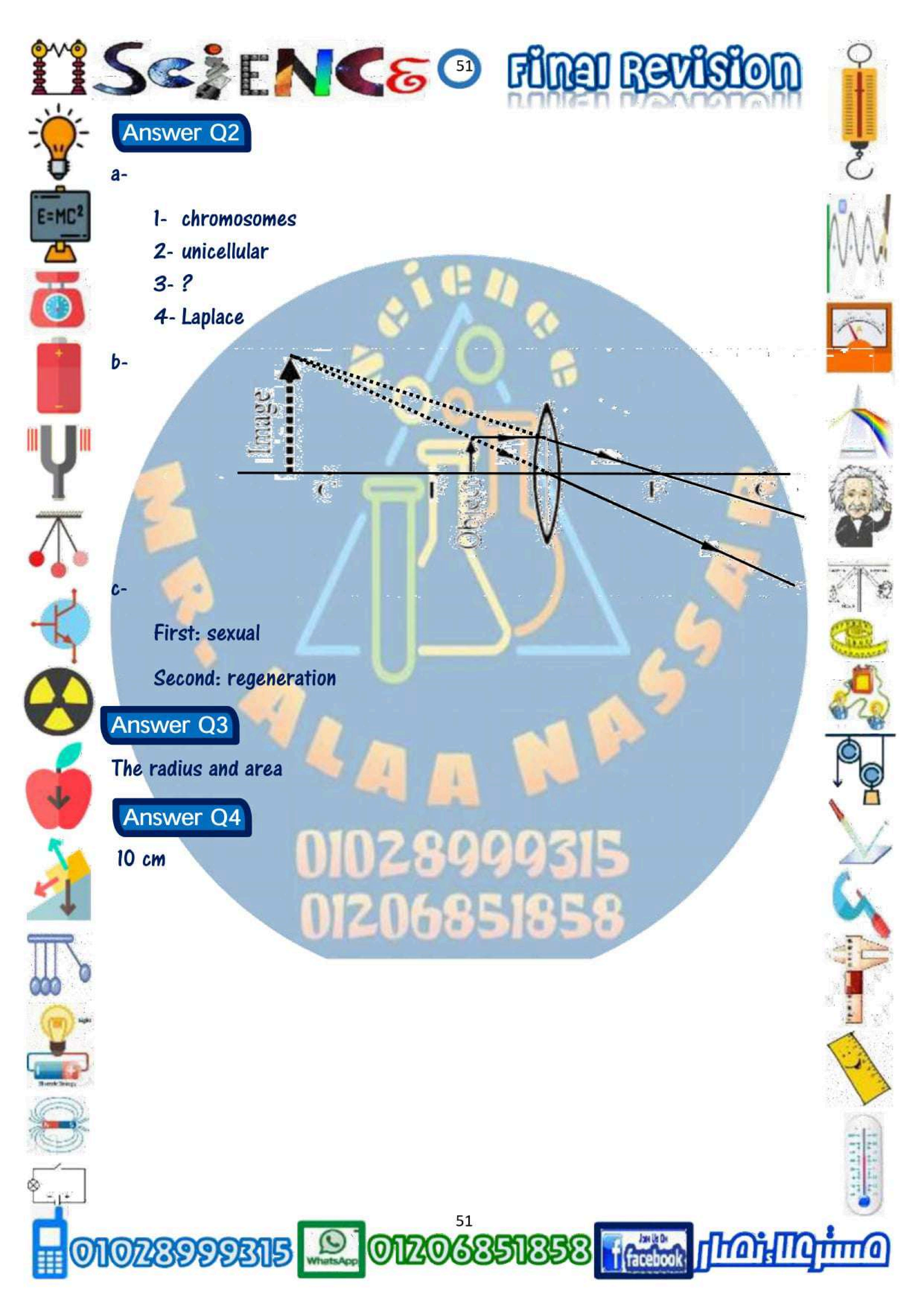




c-

1- zero
2- 10 cm





Answer Q2

a-

1- chromosomes
2- unicellular
3- ?
4- Laplace

b-

c-

First: sexual

Second: regeneration

Answer Q3

The radius and area

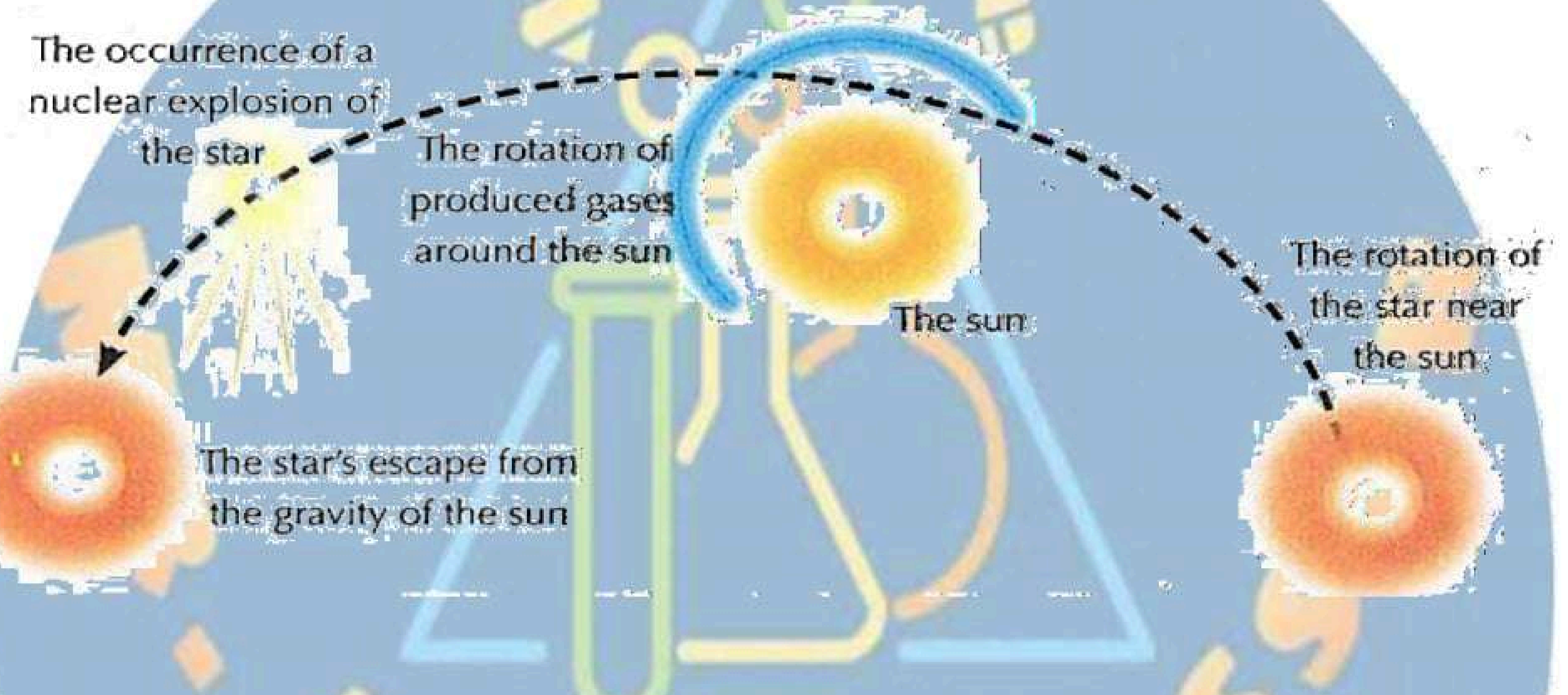
Answer Q4

10 cm

Answer Q5

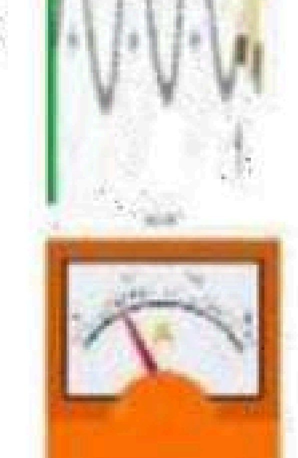
a- The modern theory of the world (Alfred Hale, 1944)

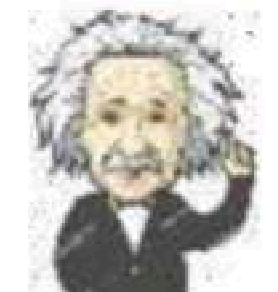
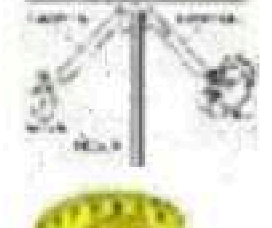
This theory is based on what is sometimes seen when a star glows for a short time to be one of the most shining stars in the sky. After a day or two, its glow disappears gradually to return as it was. The reason for that glowing is not precisely known. It may be due to the explosion of the star as a result of nuclear reactions that occur so suddenly and violently that the star bombs huge amounts of gaseous materials. Then, its size increases and accordingly its shining increases as well. When the bombed gases are cooled, its shining returns as it was.

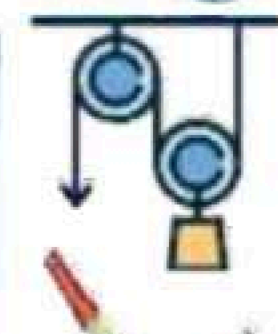


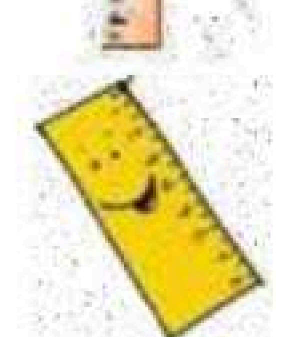
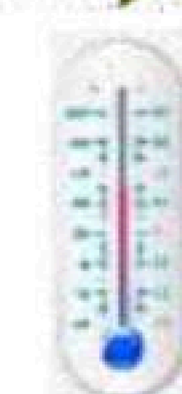
b-

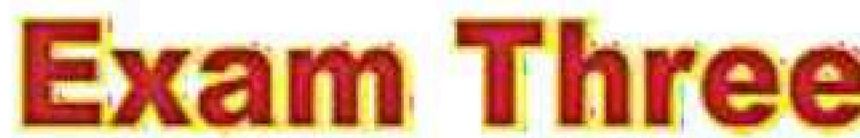
	Short shightedness	Long sightedness
- Causes :	- The diameter of the eyeball is too large. OR - The alongation of the radius of the eye ball. OR - The lens is too convex.	- The diameter of the eyeball is too short. OR - The shortness of the radius of the eye ball. OR - The lens is thin.
- The correction :	By using a concave lens.	By using a convex lens.

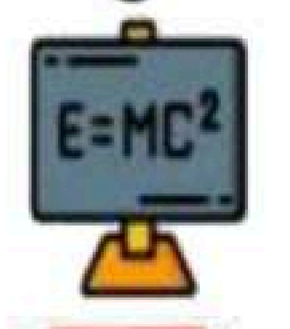






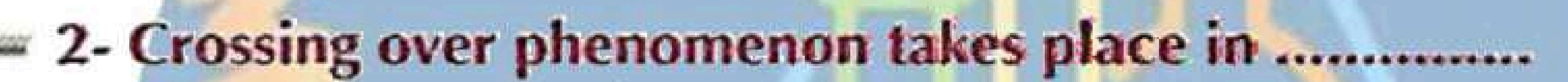

Exam Three



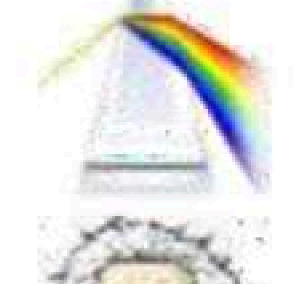




Question 1



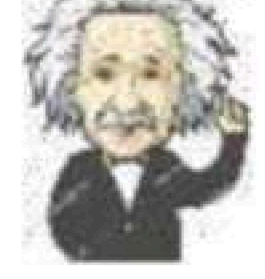
A- Choose the correct answer:



1- The scientist who establish the Nebula theory is ....

a- Chemberlain. b- Molten.

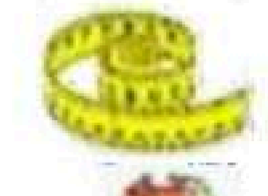
c- Alfred hale. d- Laplace.



2- Crossing over phenomenon takes place in ....

a- first prophase. b- first metaphase.

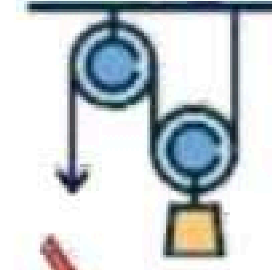
c- first anaphase. d- first telophase.


3- From the examples of vector physical quantities ....

a- the mass. b- the velocity.

c-the length. d-the time.

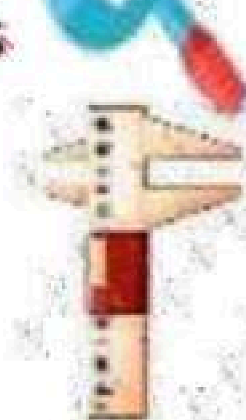



4- The measuring unit of the velocity is the ....

a- meter. b- meter/second.

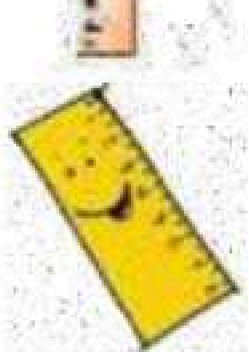
c- Meter x second. d- meter/second^2.

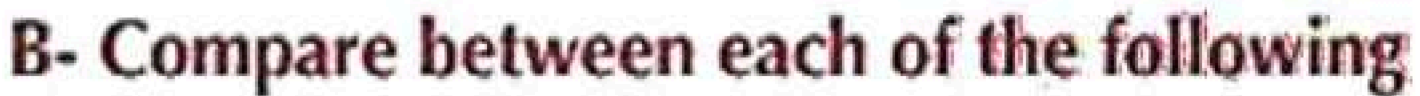
5- The straight line joins between the center of curvature of the lens and its optical center is called ....



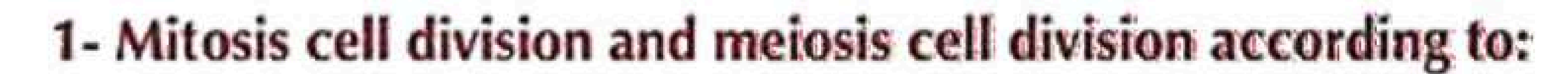
a- the focal length. b- the principle axis.

c- the secondary axis. d- the radius of curvature.



B- Compare between each of the following



1- Mitosis cell division and meiosis cell division according to:

a- The place of occurence.

b- The number of chromosomes in the resulted cells.

2- The short sighted and the long sighted in accordiance to:

a- The definition of each. b- The position of the image.

Question 2 :

A- Write the scientific terms for each of the following statements:

1- The point at which the rays which incident parallel to each other and parallel to the principle axis of the concave mirror are collected.

2- The point of connection of the two chromatides together.

3- The change of the displacement relative to the time.

4- The distance covered per unit time.

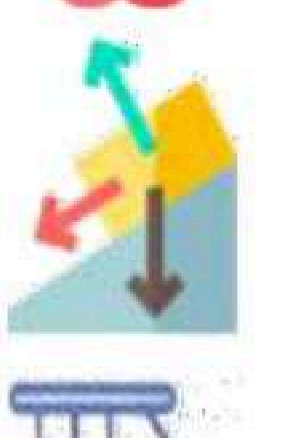
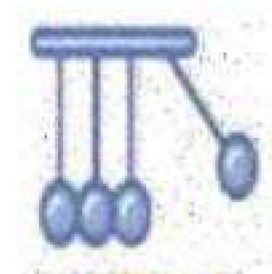
5- The cells produced from meiosis cell division and contains half number of chromosomes.

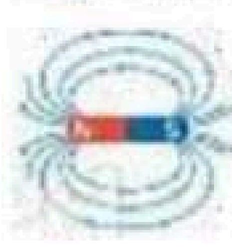
B- Give reason:

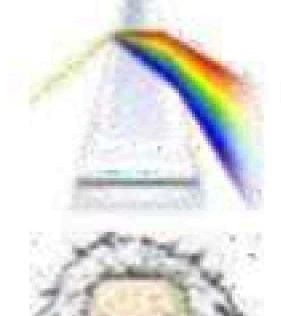
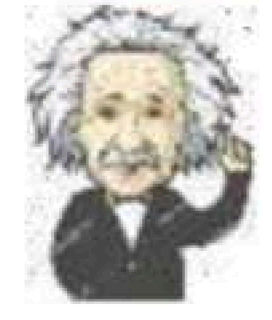


1- The sexual reproduction is a source of variation between individuals.

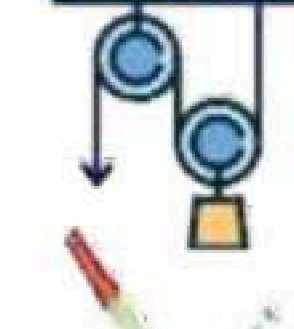
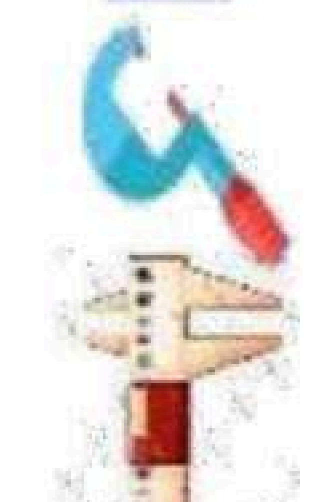
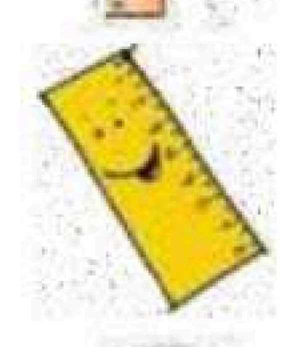
2- The stability of the earth in an orbit around the sun.

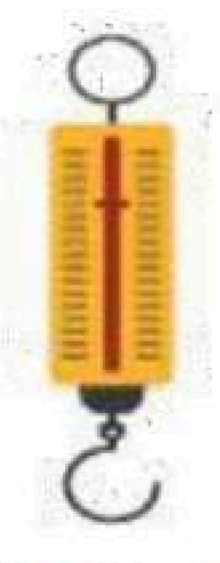
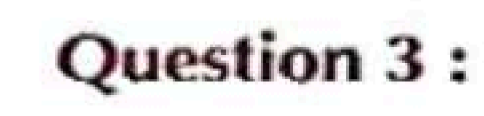







Question 3 :

A- Complete the following statements :

1- A virtual, erect and enlarged image can be formed by .... mirror.

2- The incident light ray parallel to the principle axis of the convex lens penetrates the lens passing by ....

3- The acceleration is .... quantity.

4- The spindle fibres are formed during the cell division in .... phase and disappear in the .... phase

5- From the forms of asexual reproduction are ...., ... and ....

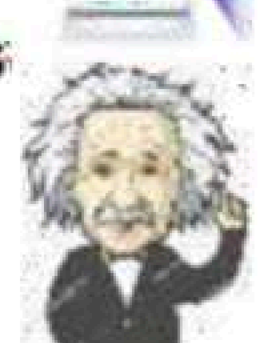
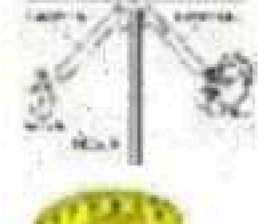


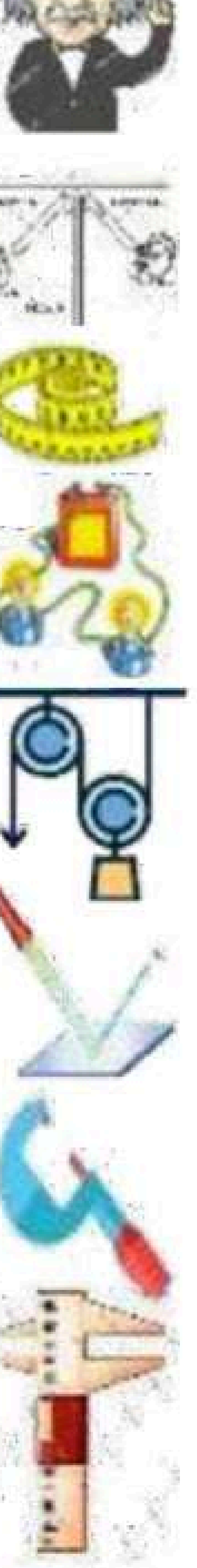
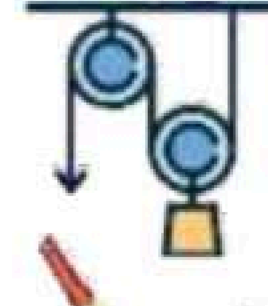

B- The displacement that covered by a moving body through different times are recorded in the follwoing table

The displacement (m)	10	20	30	40	50	60
The time (second)	5	10	15	20	25	30

1- Represent the relation graphically.

2- Calculate the velocity from the graph.

Questin 4 :

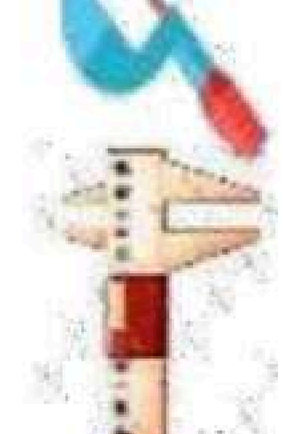
A- Correct the underlined words

1- The nuclei disappear during the mitosis cell division in <u>telophase</u>.

2- From the scalar physical quantities is <u>the force</u>.

3- The yeast fungus reproduces asexually by <u>regeneration</u>.

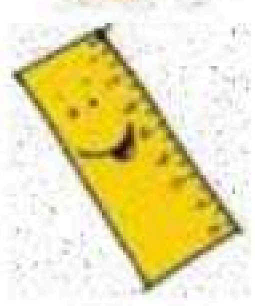
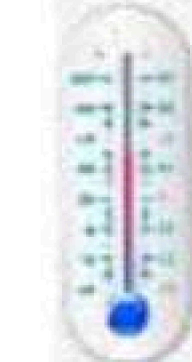
4- <u>The focus</u> is a point inside the lens, the principle axis passing through it.

B- A convex lens its focal length is 10 cm, if an object is placed at a distance 20 cm from the lens.

1- Calculate the distance between the lens and the image formed.

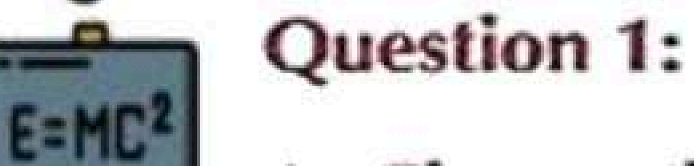
2- Mention the properties of the image.






Model answer of the third model exam



Question 1:

A- Choose the correct answer

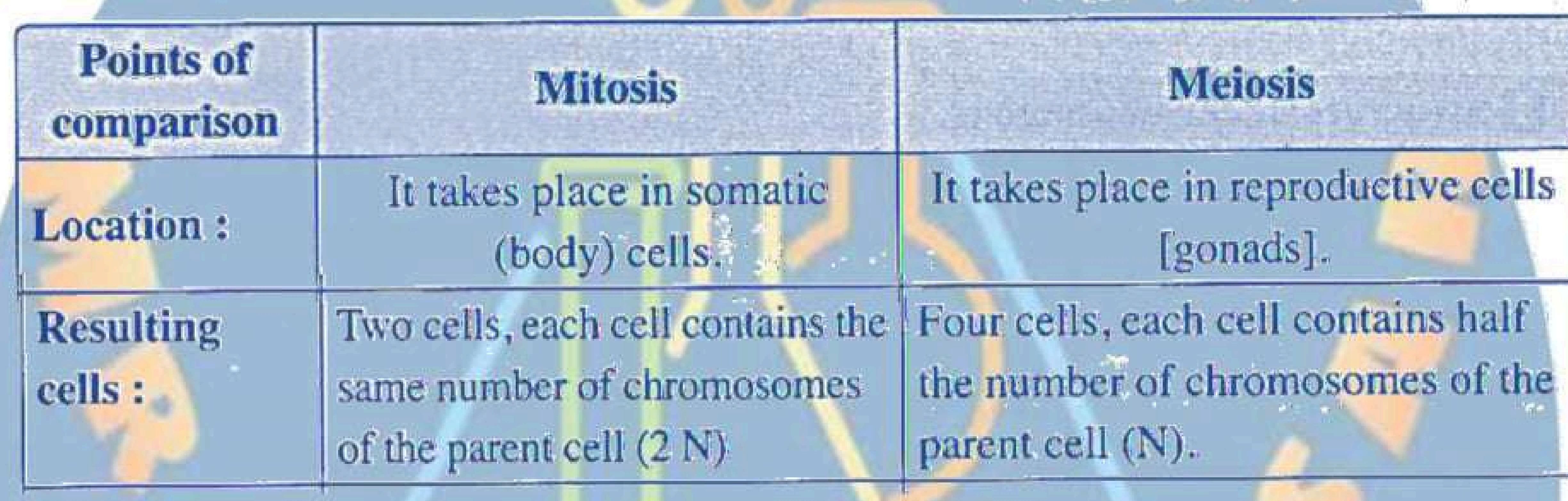
1- d. Laplace.
2- a- first prophase.
3- b- the velocity.
4- b- m/sec.
5- b- principal axis.



B-



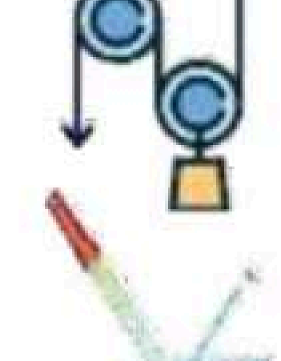
1- Mitosis (mitotic cell division) and meiosis (meiotic cell division) :

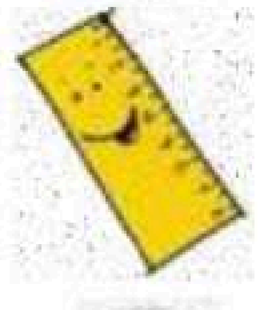
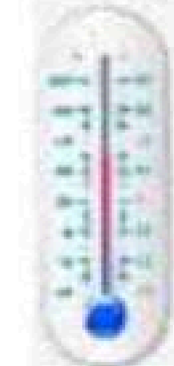


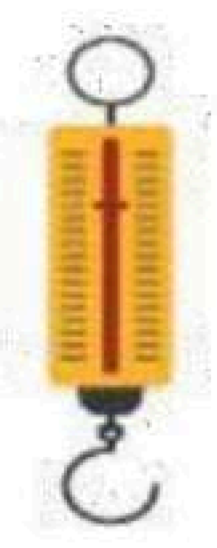
Points of comparison	Mitosis	Meiosis
Location :	It takes place in somatic (body) cells.	It takes place in reproductive cells [gonads].
Resulting cells :	Two cells, each cell contains the same number of chromosomes of the parent cell (2 N)	Four cells, each cell contains half the number of chromosomes of the parent cell (N).

2-

	Short shightedness	Long sightedness
Difintion	It is a vision defect in which the person can see the near objects clearly and the far objects distorted	It is a vision defect in which the person can see the far objects clearly and the near objects distorted
The position of image	Infront of eye retina	Behind the eye retina

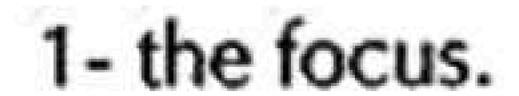





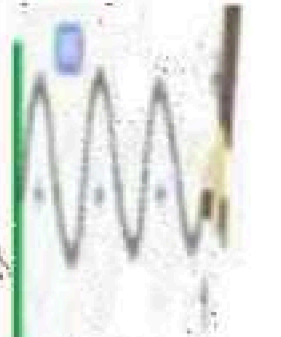
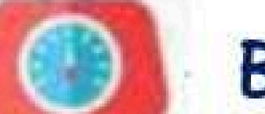

Question 2:

A- Write the scientific term:-

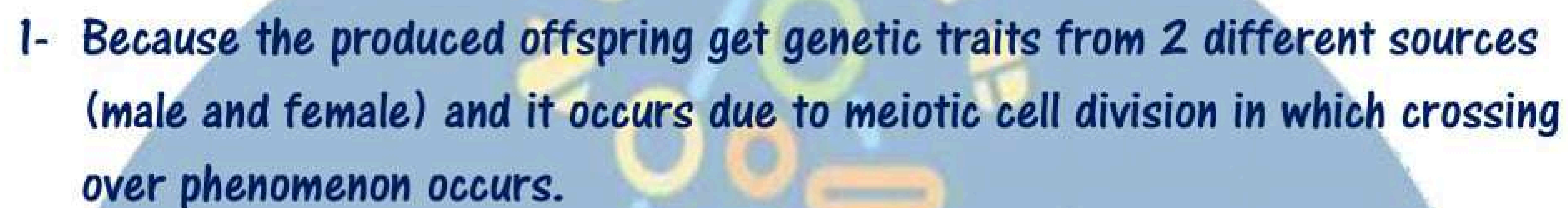


1- the focus. 2- centromere.

3- the velocity. 4- the speed. 5- gametes.

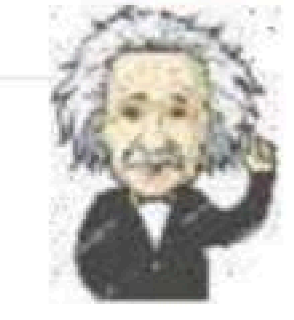

B-




1- Because the produced offspring get genetic traits from 2 different sources (male and female) and it occurs due to meiotic cell division in which crossing over phenomenon occurs.

2- Due to the gravity of the sun toward the Earth.





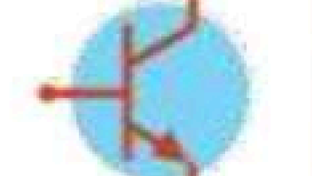
Question 3:

A- Complete the following statements:



1- convex mirror. 2- the focus. 3- vector.

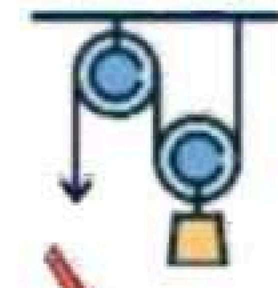
4- prophase - anaphase. 5- budding - binary fission - spores.


B- Draw by your self:

The velocity $= \frac{20 - 10}{10 - 5} = \frac{10}{5} = 2$ m/sec.





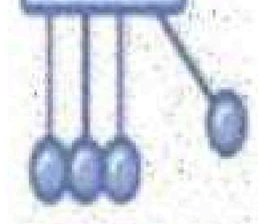
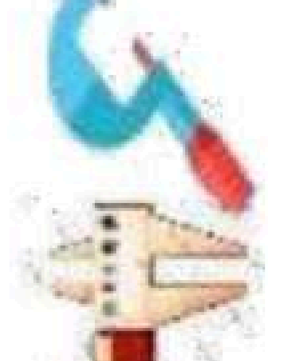
Question 4:

A- Correct the underlined word:



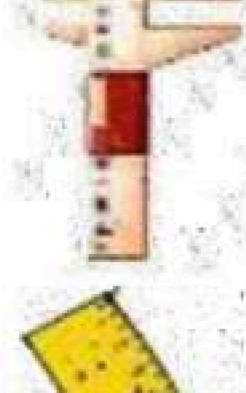
1- prophase. 2- the mass. 3- budding.

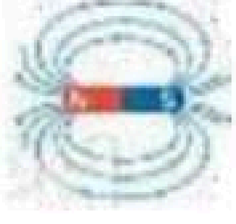
4- the optical centre. 5- the focal length x2.

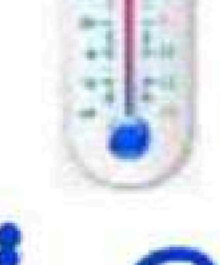



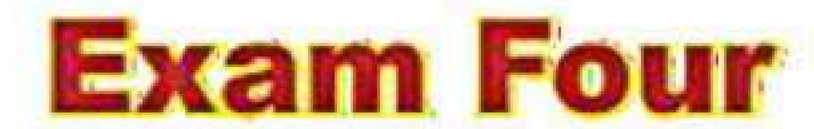
B- 1- The image will be at 20 cm from the lens.

2- The image is real, inverted and equals to object.







Exam Four



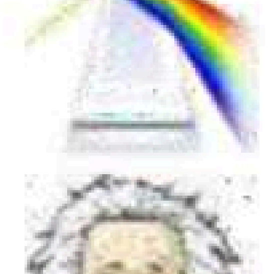

Question 1 :

A- Choose the correct answer :

1- Spindle fibers appear during cell division in the ....

a- prophase. b- metaphase.

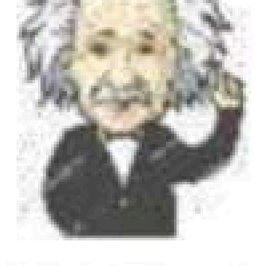
c- anaphase. d- telophase.



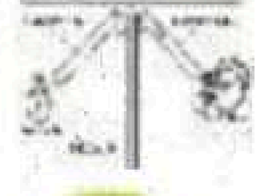
2- Starfish reproduces asexually by ....

a- regeneration. b- binary fission.

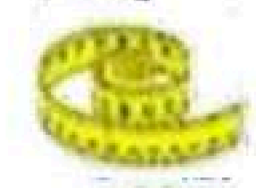
c- budding. d- spores.



3- .... is used to treat the short sightedness



a- convex lens. b- concave lens.

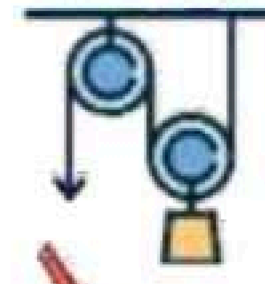
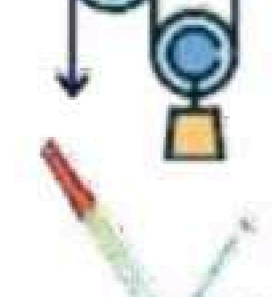


c- convex mirror. d- concave mirror.



4- From the examples of scalar quantities is ....

a- the velocity. b- the mass.

c- the force. d- the acceleration.

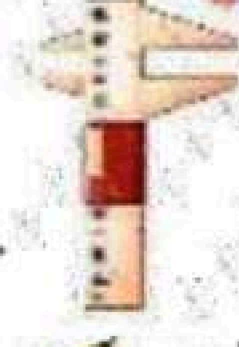
5-The speed equals ....

a- $\frac{\text{the distance}}{\text{the time}}$ b- $\frac{\text{the time}}{\text{the distance}}$

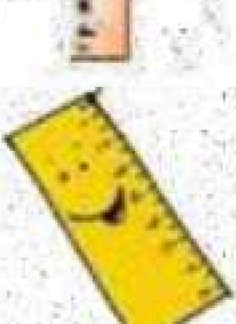


c- the distance x the time. d- the distance + the time.

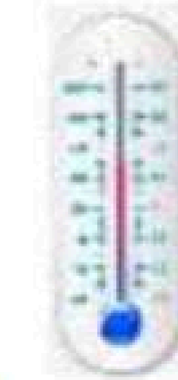
B- Compare between each of the following:

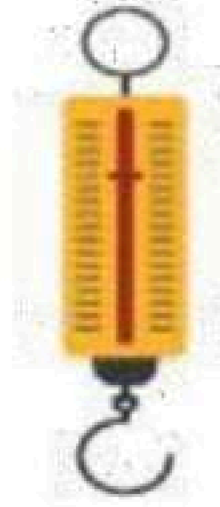
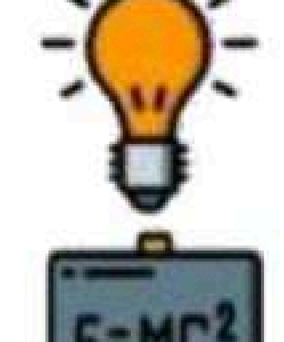


1- The reproduction by regeneration and the reprodaction by budding.



2- The Nebula theory and crossing star theory.



Question 2 :

A- Write the scientific term :

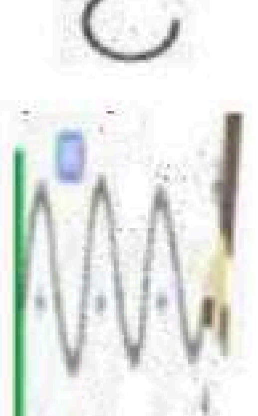
1- The distance covered per unit time.

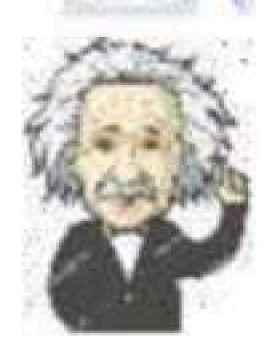
2- The line joins the center of curvatuer of the lens and its optical center.

3- A defect results due to the formation of the image behind the retina of the eye.

4- Asexual reproduction by using vegitative organs except seeds.

5- Cellular division which leads to the formation of gametes.

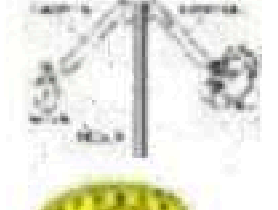


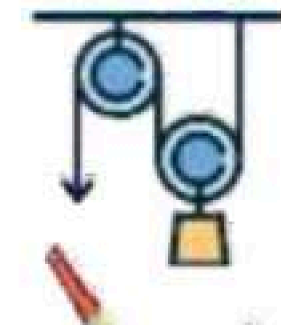



B- Give reason for :

1- Concave mirrors are used to generate high heat energy.

2- Cellular division begins with interphase.



Question 3 :

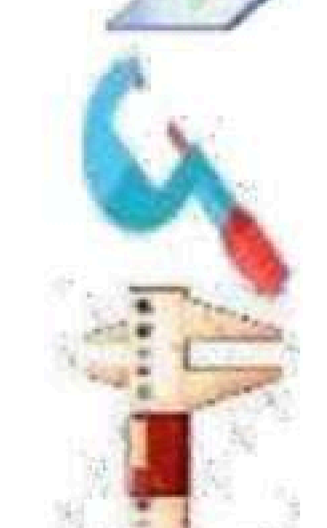
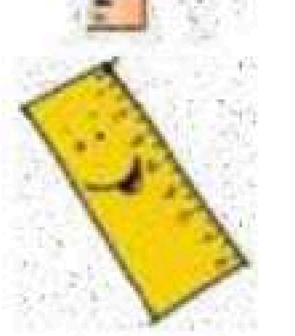
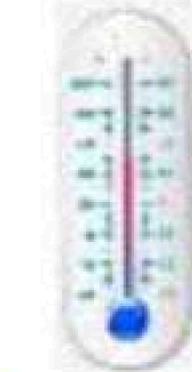
A- Complete the following statements :

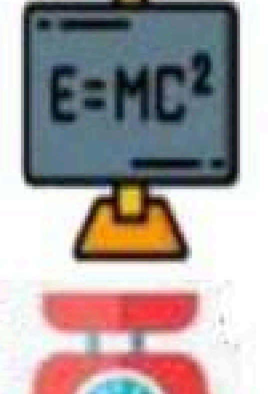
1- The displcement is considered as............ quantity, while the density is considered as .... quantity.

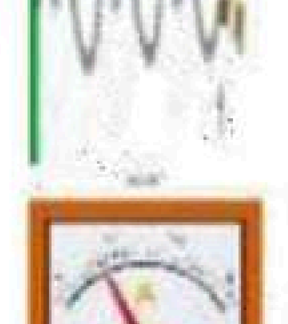
2- Amoeba reproduces asexually by .... , while the bread mould fungus reproduces by ....

3- Crossing over phenomenon occurs during .... phase of the division .

4- From the types of mirrors are .... and ....

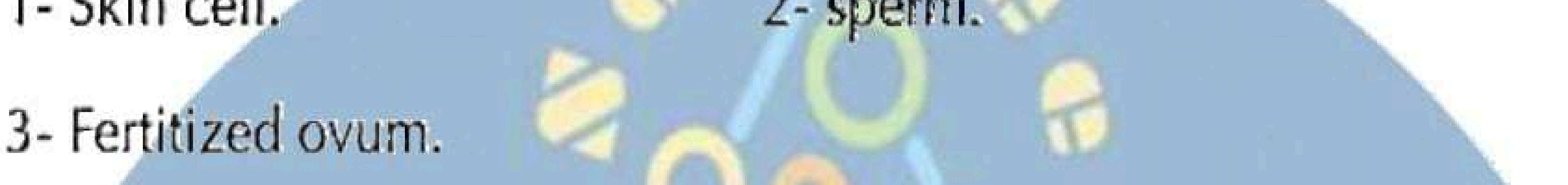






5- From the properties of the image formed by the concave lens are ...., ... and ....

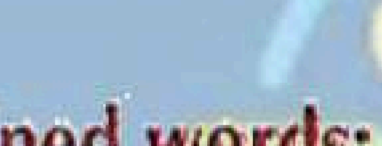
B- If the number of chromosomes in a human panceratic cell is 23 pairs of chromosomes, what is the number of chromosomes in the following cells:

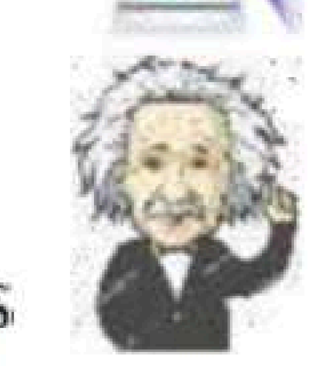


1- Skin cell. 2- sperm.



3- Fertitized ovum.





Questin 4 :

A- Correct the underlined words:

1- A moving car covers a distance of 500m in 25 sec, so its speed equals 200 m/sec.

2- Sexual reproductin takes place in plants by spores.

3- Chromosomes arranged along cell equator in the anaphase.

4- Euglena reproduces asexually by budding.

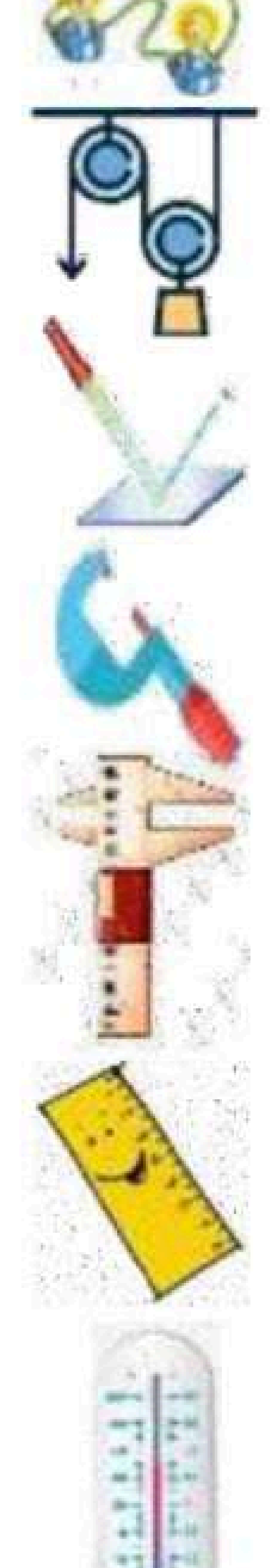
5- A concave lens is used to treat the long sightedness .

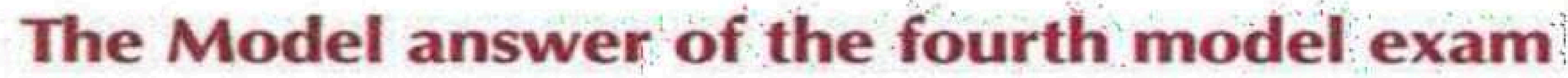
B- what is meant by :

1- The acceleration.

2- The relative velocity .

3- The centromere.





The Model answer of the fourth model exam



Question 1:



A- Choose the correct answer:

1 - a) prophase.

2- a) regenration.

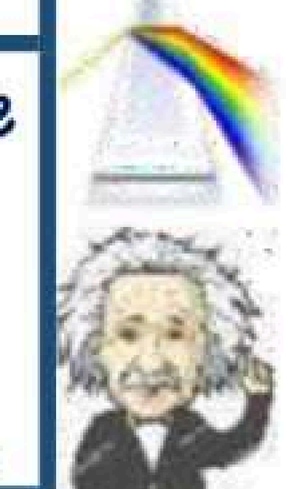
3 - b) concave lens.

4-b) the mass.

5- a) $\frac{\text{the distance}}{\text{the time}}$



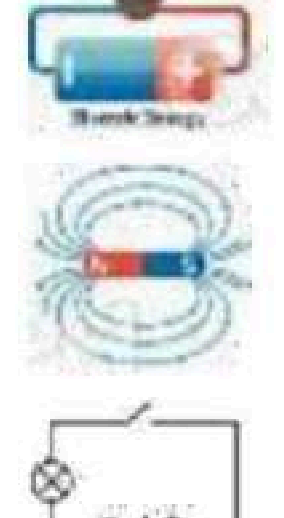
B - 1-



Reproduction by budding	Reproduction by regeneration
It is a type of asexual reproduction produces new individuals by formation of buds in the parent individual.	It is a type of asexual reproduction in some multicellular animals in which the missing part has the ability to grow to a new individual identical to the parent indivdual.

2-

Points of comparison	Nebular theory	Crossing star theory
The founder :	Laplace	Chamberlain and Moulton
The beginning of the solar system :	A glowing gaseous sphere revolving around itself.	The Sun



Question 2:

A- Write the scientific term:

1- The speed.
2- The principal axis.
3- long sightedness.
4- vegetative reprodution.
5- meiosis.



B-

1- Because the concave mirror collect sunlight.
2- Because the interphase prepares the cell for cell division through some important biological processes and duplicating the genetic material.



Question 3:

A- Complete the following statements:

1- Vector quantity - scalar quantity.
2- Binary fission - Spores.
3- Prophase - First meiosis.
4- Plane, Concave, Convex.
5- Virtual, erect, diminished.

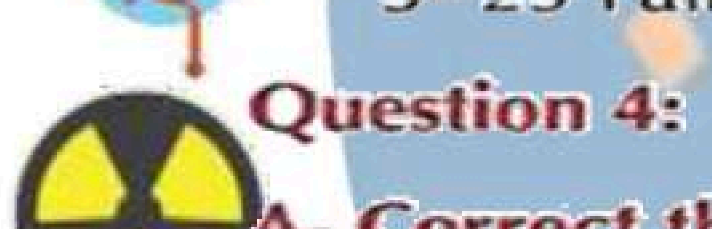
B- 1- 23 Pairs of chromosmes.
2- 23 Chromosomes.
3- 23 Pairs of chromasomes.



Question 4:

A- Correct the underlined words:

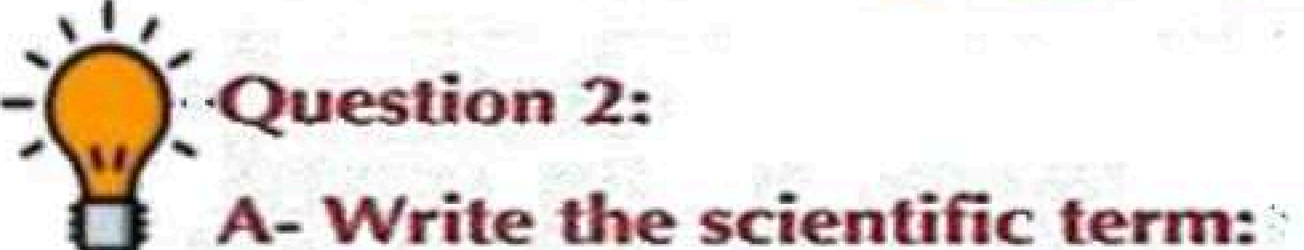
1- 20m/sec.
2- Seeds.
3- metaphase.
4- binary fission.
5- Short sightedness.



B-

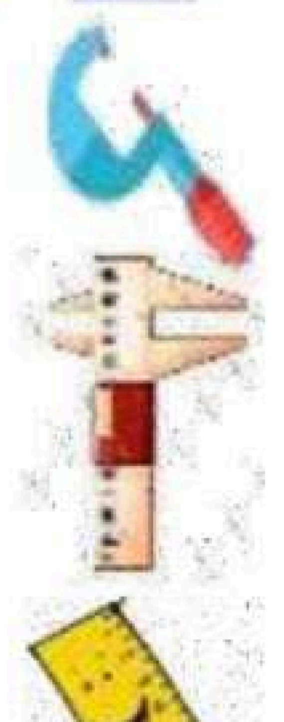
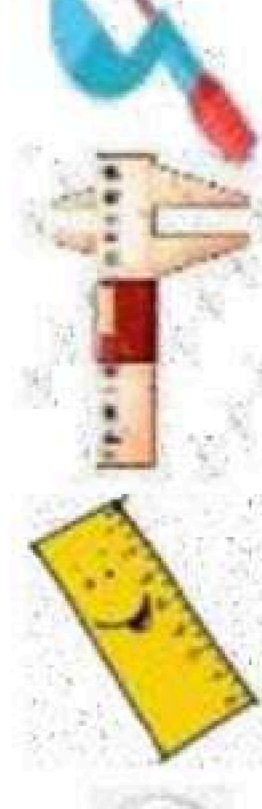
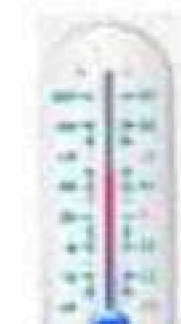


1- It is the change of an object's speed in one second in a specific direction.
2- It is the speed of a moving object relative to an observer.
3- It is the point of connection of the two chromatids of duplicated chromosome.

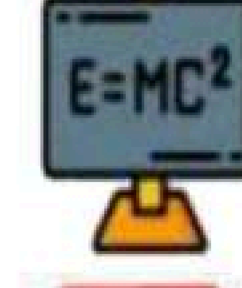












Exam Five




Question 1 :

A- Complete the following statements :

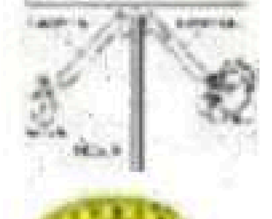
1- When the object lies in front of .... lens, a virtual diminished image is formed.




2- The movement path may be .... or .... or both of them.

3- Molecules of .... metal is used to detect cells of cancer and .... rays are used to destroy them.

4- In plants, male gametes are called .... while female gametes are called ....




Question 2 :

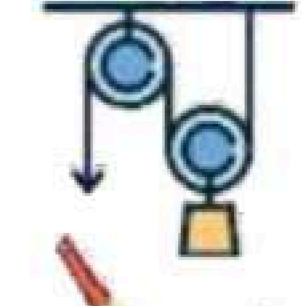


A- Compare between each of the following :



1- The uniform speed and the irregular speed.

2- Assumptions of Nebular theory, and crossing star theory.



B- Choose the correct answer between the brakets

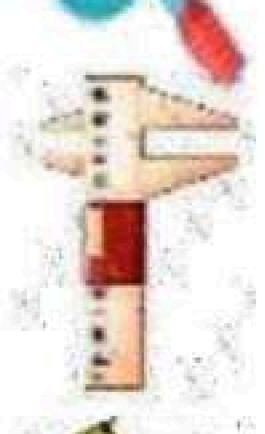
1- Virtual image is formed by ....

(plane mirror - concave lens - convex lens - all the previous)



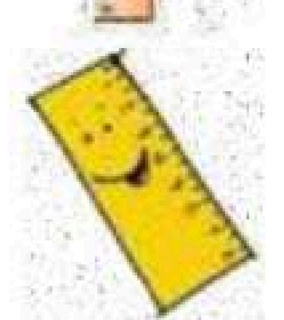
2- Meiosis divison occurs in .... cells.

(liver - skin - bones - testis)



3- when an object moves with acceleratin = zero

This means that the .... (velocity is changed - accelection increases - body moves with deceleration - velocity of the body is constant)



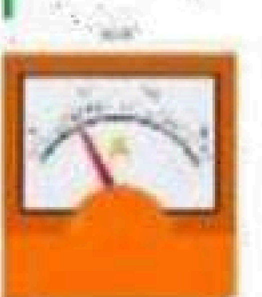





Questin 3 :

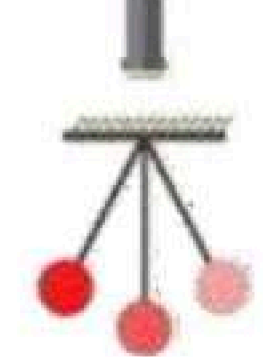
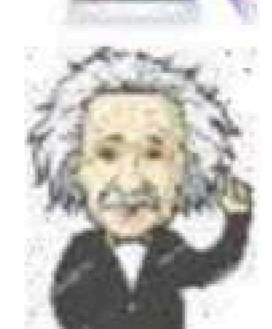
A- A body of length 4 cm at a distance of 6 cm from convex lens, its focal length is 3 cm .

- Draw a diagram to show the path of the rays falling on the lens and the refracted ones from it.
- Mention the properties of image formed.
- Showing the length of the image and the radius of the lens .

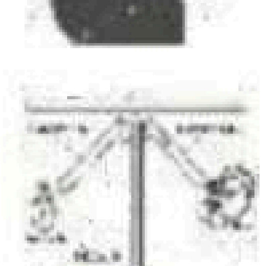


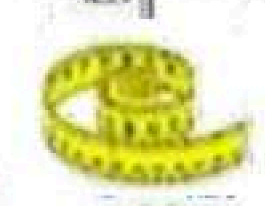
B- A body moves from rest, its velocity reaches 20 km/hr after 5 sec. Calculate the accelecation of the body.

C- Two trains move in two parallel different ways in opposite directions

If the speed of the first train 60 km/hr and the second moves by speed 10 km/hr. Calculate the velocity of the first train that observed by passengers in the second train.

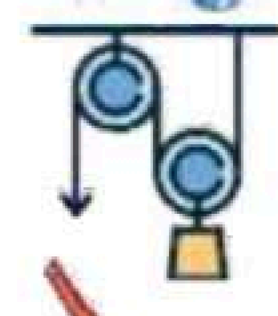




Questin 4 :

Put the sign (√) in front of the correct answer and the sign (X) in front of incorrect answer:



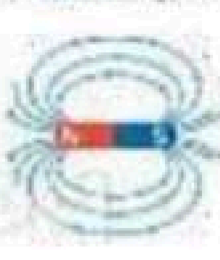
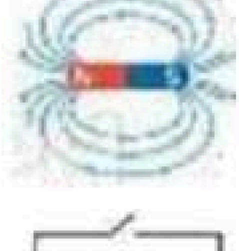
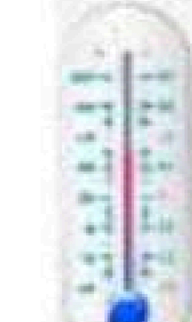


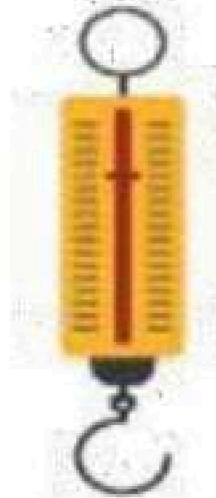
1- The distance is a vector quantity and the displacement is a scalar quantity. (   )
2- The year of Saturn planet is an earth's year. (   )
3- The images formed by plane mirror is real. (   )



B- Give reason for :

1- The body moves by acceleration can't move with constant velocity.
2- The convex mirror is placed in the left of the driver.
3- The individuals resulted from the sexual reproduction are not similar to their parents.





Question 5 :

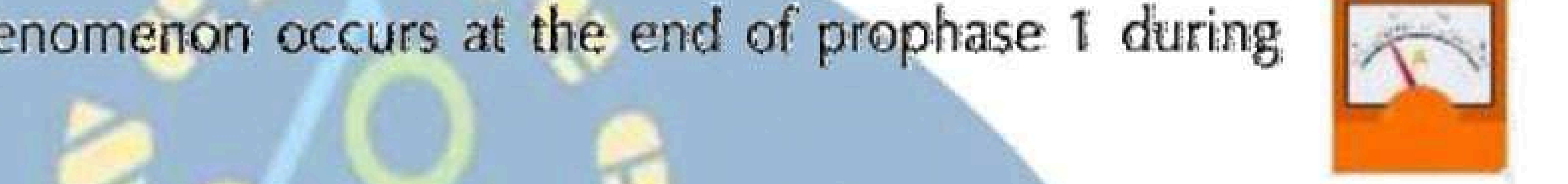
A- Show by drawing only :

1- The position of focus in the convex mirror.

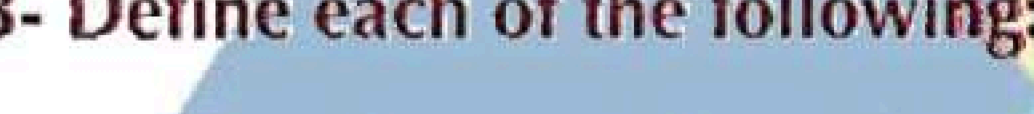
2- The type and the role of lens used to treat the shortsightedness .

3- Crossing over phenomenon occurs at the end of prophase 1 during meiosis division.

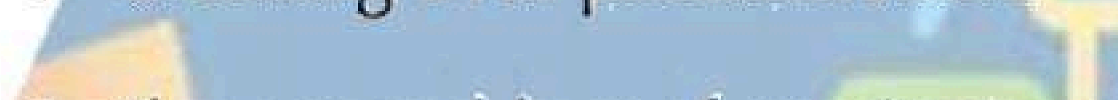
B- Define each of the following:



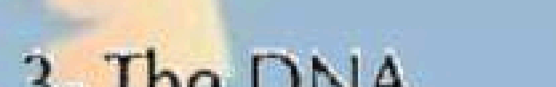
1- Crossing over phenomenon.



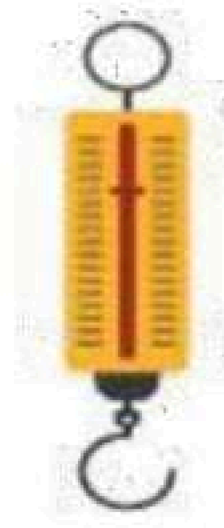
2- The general law of gravitational attraction.



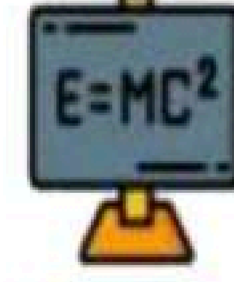
3- The DNA.





Model Answer



Answer Q1




A- 1- concave 2- straight – curved 3- gold – laser 4- polin grains – ova



Answer Q2

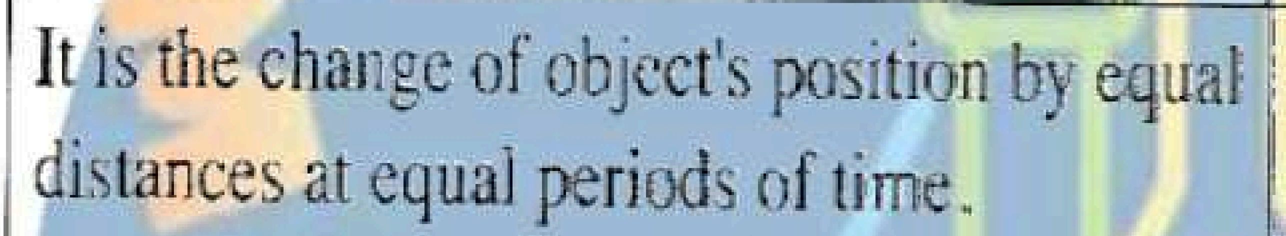
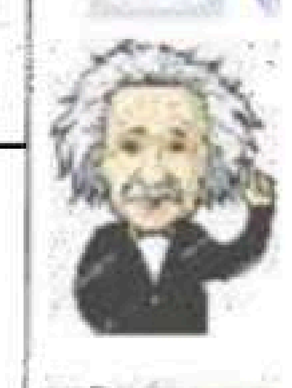
1- A-



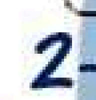
Regular and irregular speed :




Regular speed	Irregular speed
It is the change of object's position by equal distances at equal periods of time.	It is the change of object's position by equal distances at unequal periods of time (or unequal distances at equal periods of time).

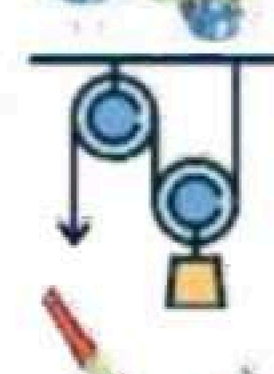
2-



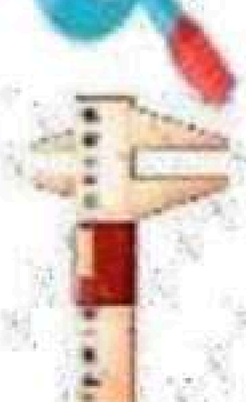
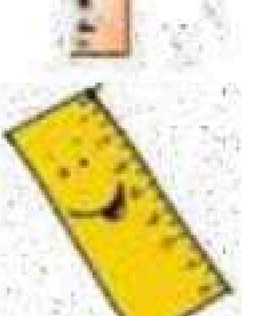
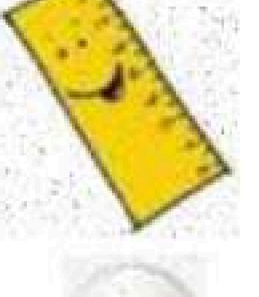
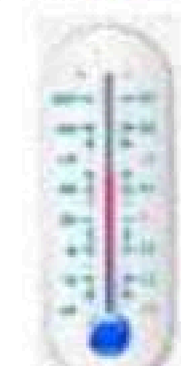
1 Nebular theory (Laplace 1796) :

- **Assumptions of nebular theory :**

The solar system was a glowing gaseous sphere revolving around itself. This sphere is called "Nebula".

1. The nebula lost its heat gradually, so its size contracted and its revolving speed around itself increased.
2. The nebula lost its sphere form and became in a form of a flat rotating disk.
3. Parts got separated from the flat rotating disk to form gaseous circles.
4. • The gaseous circles cooled down and frozen forming the planets of the solar system.
   • The flaming mass that remained in the centre formed the "Sun".



2 The crossing star theory (Chamberlain and Moulton 1905) :



• **Assumptions of the crossing star theory :**



The solar system was originally the Sun



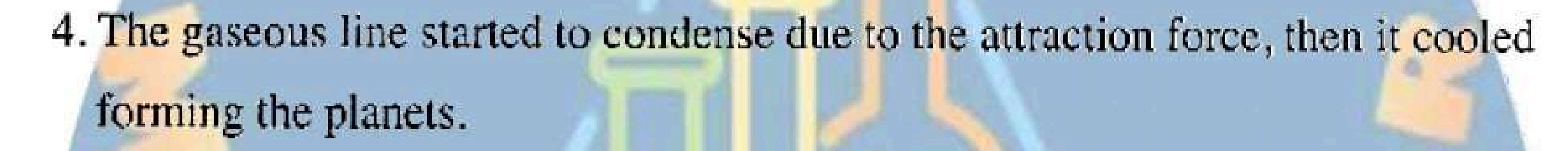
1. Another huge star approached to the Sun.



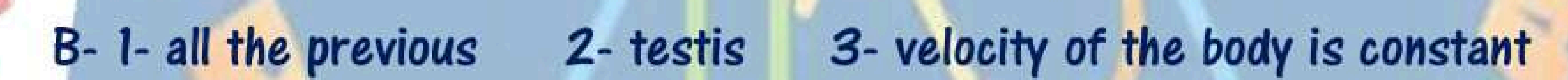
2. This star attracted the Sun to it which led to a great expansion in the part of the Sun facing this star.



3. • This expanded part was exploded which led to :
   - A gaseous line was formed of a great length from the Sun to the last planet.
   - The Sun escaped from the gravity of that star.



4. The gaseous line started to condense due to the attraction force, then it cooled forming the planets.



B- 1- all the previous 2- testis 3- velocity of the body is constant

Answer Q3

A-

C F P F C



The properties of image:

Real – Inverted – Equal to the object.



The length of image = 4 cm

The radius of the lens = 6 cm

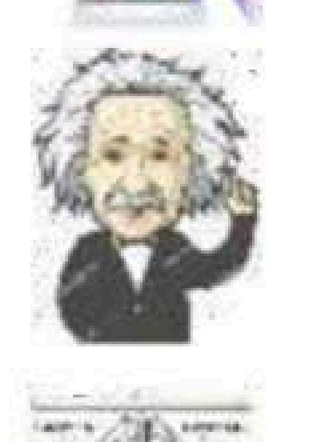
B- V_1 = Zero V_2 = 20 km/hr = 20/3.6 = 5.56 m/sec t = 5 sec a = ?

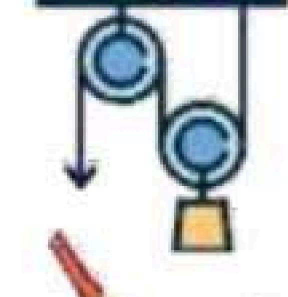
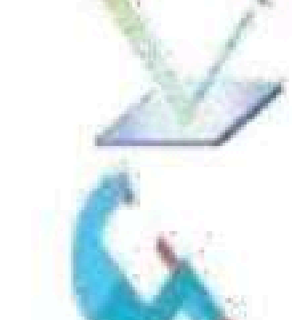
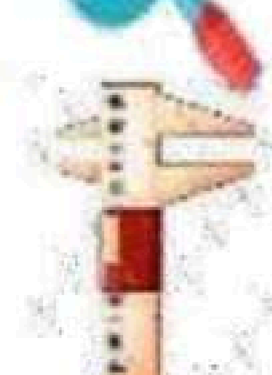
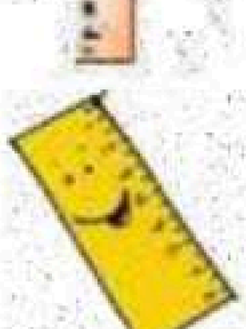
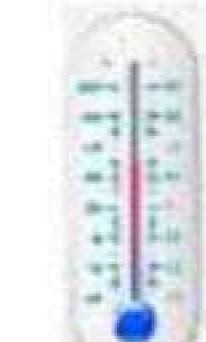
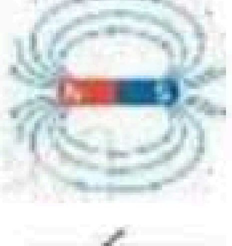
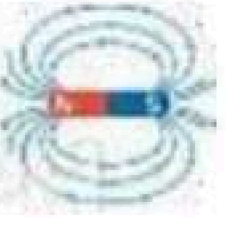
$a = \Delta v / t = -5.56/5 = -1.11 \text{ m/sec}^2$

C- V_a = 60 km/hr V_b = 10 km/hr

The velocity of the firt train observed by passengers in the second train =

$V_a - V_b = 60 - 10 = 50$ km/hr






Answer Q4

A-

1- (X)

2- Cancelled

3- (X)

B-

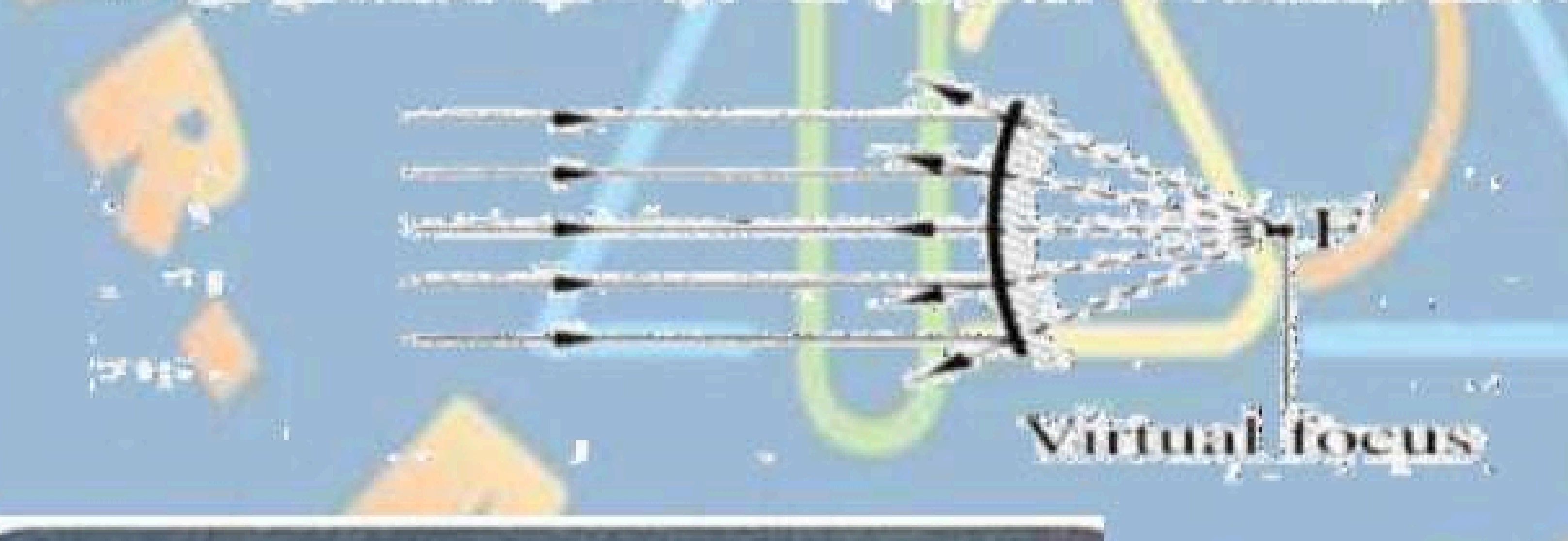
1- Because acceleration = the change in velocity per unit time.

2- To form virtual minimized image for the road behind the driver.

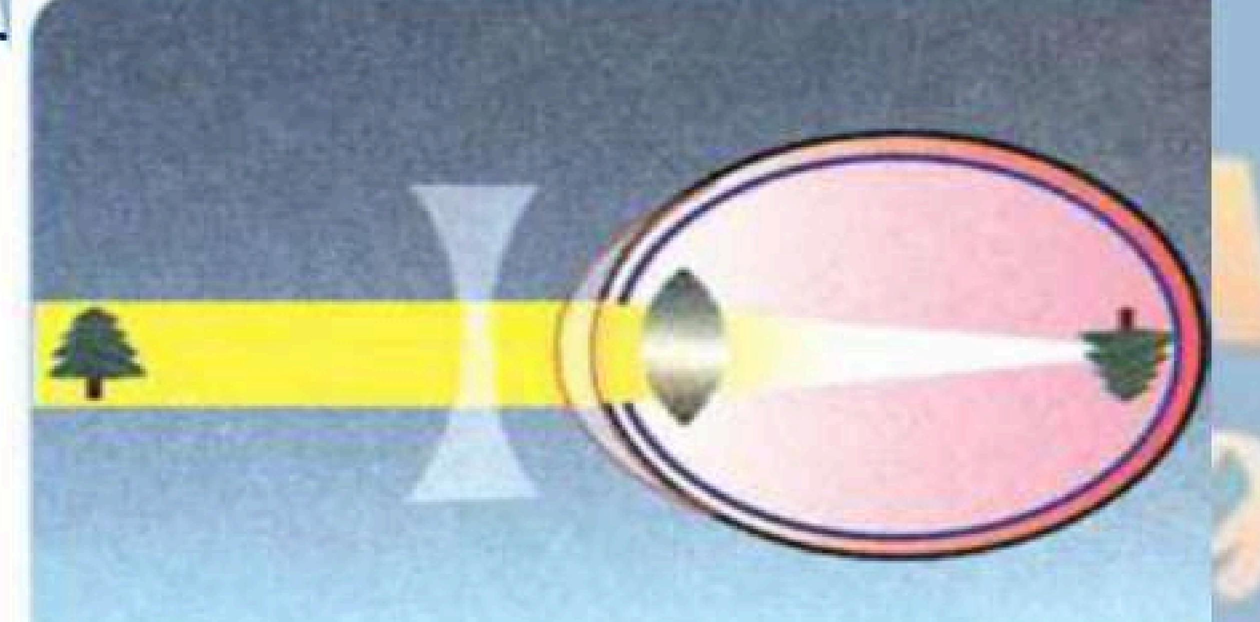
3- Because the produced individuals get genetic traits from 2 different sources (male and female) and it occurs due to meiotic cell division in which crossing over phenomenon occurs.

Answer Q5

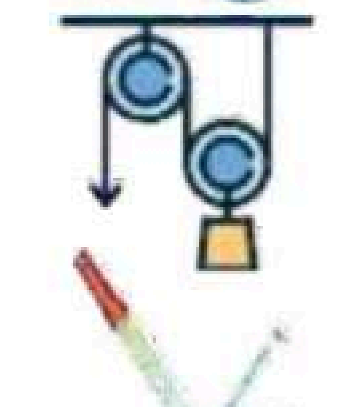
A- 1-



2-



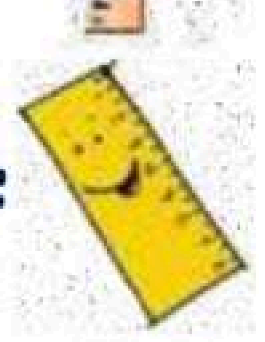
3-

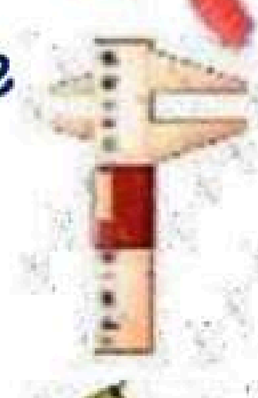


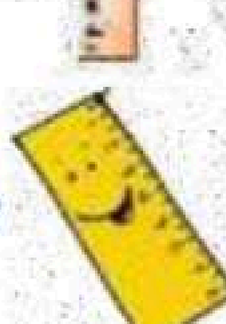
B- 1- It is a phenomenon that takes place at the end of prophase I and in which some parts of the two inner chromatids of each tetrad are exchanged to produce new genetic arrangements.

2- cancelled

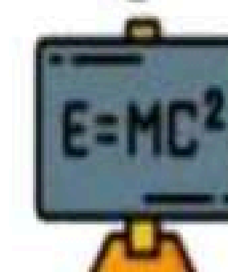
3- It is the nucliec acid that forms the chromosomes that present in the cell nucleus and it contains genes.











Exam Six






Question : 1

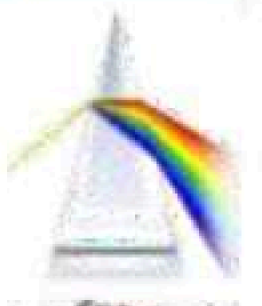
Complete the following :

1- When a body lies in front of a concave mirror at a distance of ………… from its focal length, a real, smaller and ………… image is formed.

2- In fertilization process, combination takes place between ………… and ………… to form the zygote.

3-Force is considered ………… physical quantity and mass is considered ………… physical quantity.

4- The difference between the length of the day from planet to another is due to …………, …………

Question 2 : Compare between each of the following :

1- Long sightedness and short sightedness.

(definition - the position of the formed image - treatment)

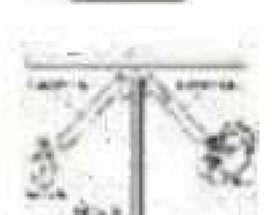
2- Somatic cells and reporductive cells.

(No. of chromosome - no. of produced cell - type of division)

3- Convex mirror and concave mirror .

(Focal length - center of curvature - way to form virtual image)



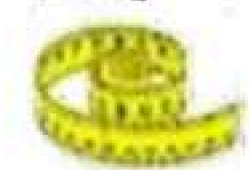
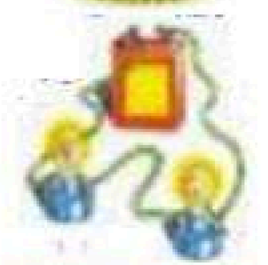
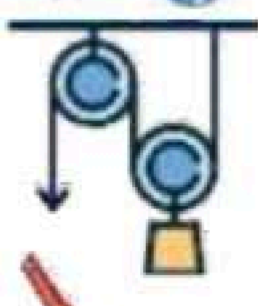
Question 3: Give Reason:

1- Shrinking of spindle fibers during the anaphase of mitosis division.

2-The number of chromosomes is constant in the same species which reproduce sexually.

3- No image is formed in the focus of convex lens.

4- The mitosis division is important for children than the meiosis.


Question : 4

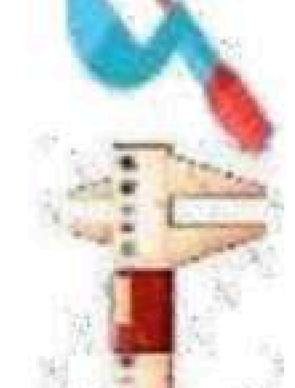
A- Show by graphical drawing the relation between (Velocity - time) which represents the following cases

1- A body moves with uniform speed 60 km/h.

2- A body moves with uniform accelerating motion 15 m/s^2.

B- A car moves with speed 80 m/s . If the driver used the brakes to decrease the speed so it decreased by 2m $/s^2$.

Calculate its speed after 12 seconds from using the brakes?



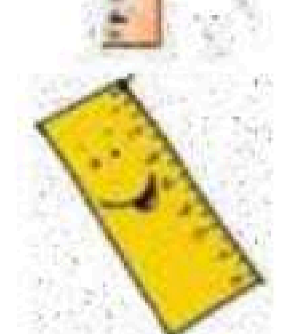
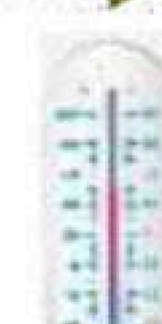
Question : 5

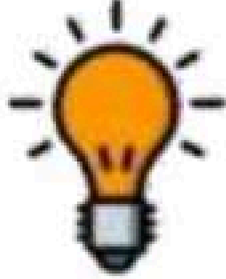
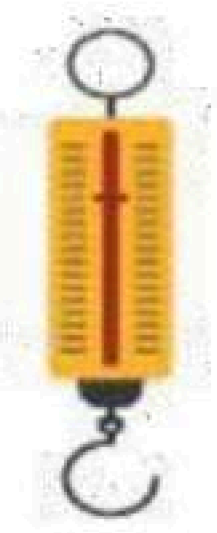
A- What happened:-

1- When the nebula loses its temprature in Laplace's opinion.

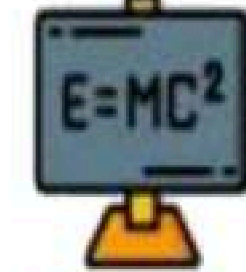
2-Occuring of crossing over at the end of prophase 1 in meiosis division.

3- If the gravity of earth disappear.

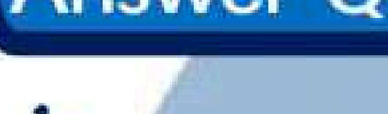



Model Answer



Answer Q1

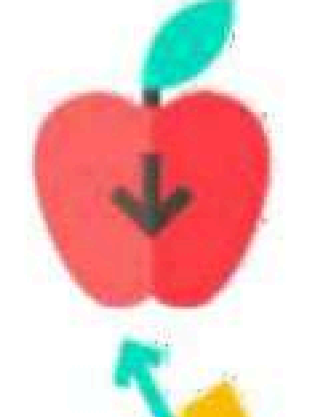
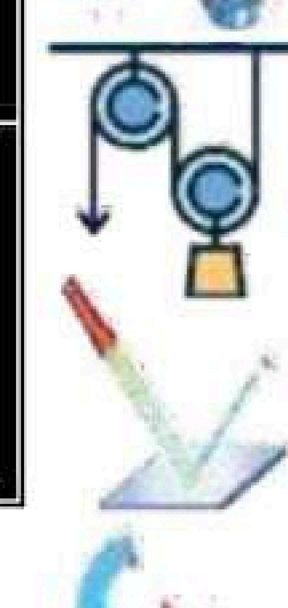
1- greater than double – inverted
2- male gamete – female gamete
3- vector – scalar
4- cancelled

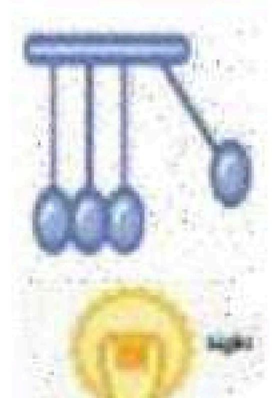
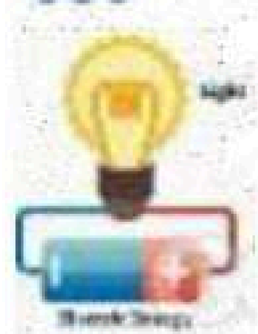
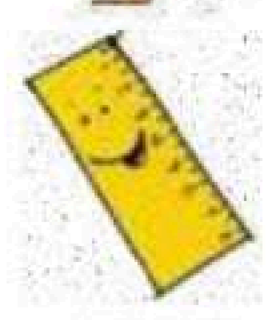
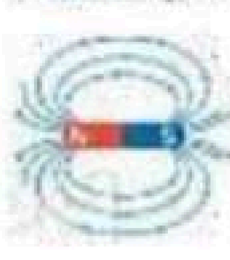



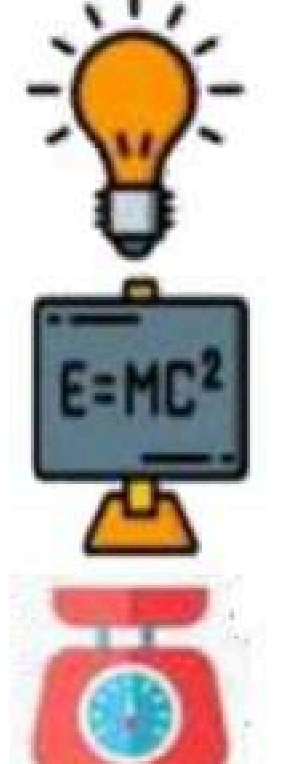
Answer Q2

1-

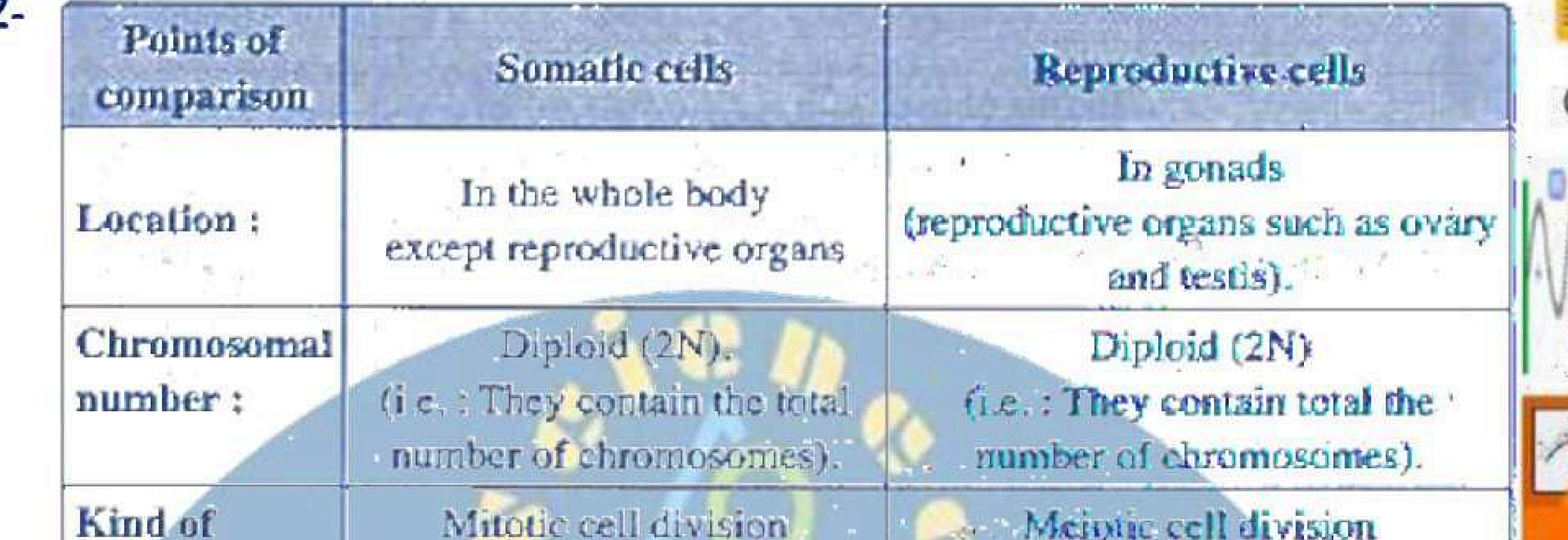
	Short shightedness	Long sightedness
Difintion	It is a vision defect in which the person can see the near objects clearly and the far objects distorted	It is a vision defect in which the person can see the far objects clearly and the near objects distorted
The position of image	Infront of eye retina	Behind the eye retina
Treatment	By using concave lens	By using convex lens



2-



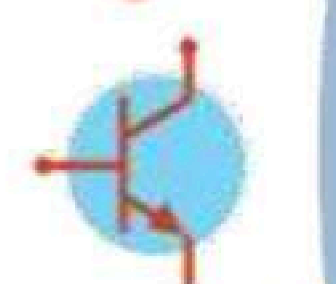
Points of comparison	Somatic cells	Reproductive cells
Location :	In the whole body except reproductive organs	In gonads (reproductive organs such as ovary and testis).
Chromosomal number :	Diploid (2N). (i.e. : They contain the total number of chromosomes).	Diploid (2N) (i.e. : They contain total the number of chromosomes).
Kind of division :	Mitotic cell division [Mitosis]	Meiotic cell division [Meiosis]



3-

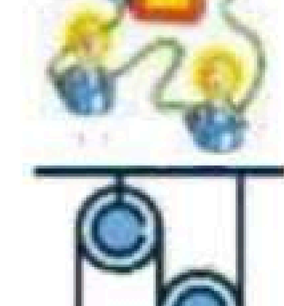
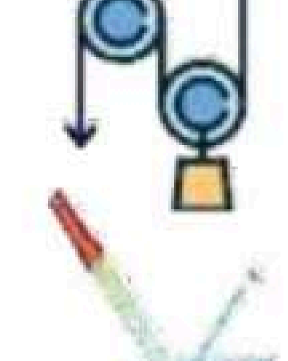
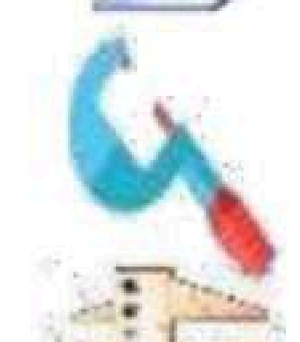
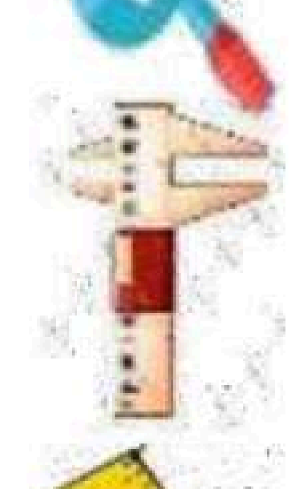
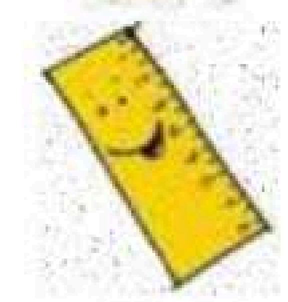
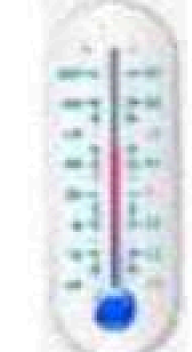


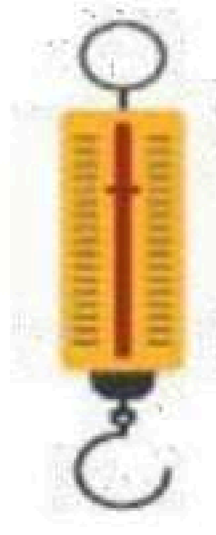
Concave mirror (converging mirror)	Convex mirror (diverging mirror)
- A mirror, its reflecting surface is a part of the inner surface of the sphere. - It converges (collects) light rays after reflection. - Its focus is real.	- A mirror, its reflecting surface is a part of the outer surface of the sphere. - It diverges light rays after reflection. - Its focus is virtual.





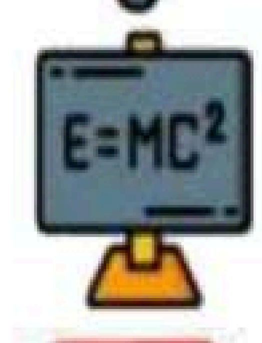
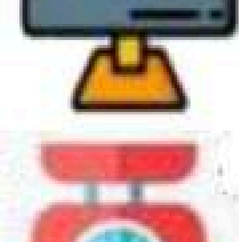
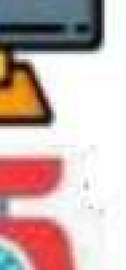
1- To separate two identical groups of chromosomes at each pole of the cell.
2- Because sexual reproduction occures by fusion of male gamete (N) and female gamete (N) to form zygote with complete number of chromosomes (2N).
3- Because the refracted rays from convex lens don't intersect.
4- Because mitosis is important for growth but meiosis is important for reproduction and formation of gametes.



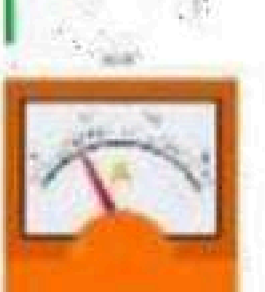

Answer Q4



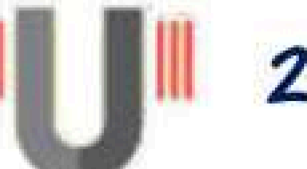





A – 1-

Velocity km/h (y-axis: 0, 10, 20, 30, 40, 50, 60, 70)
Time h (x-axis: 0, 1, 2, 3, 4, 5, 6)



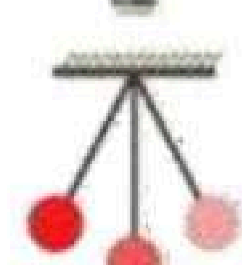
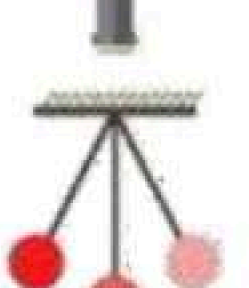
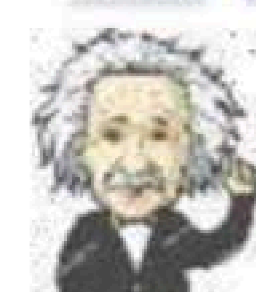
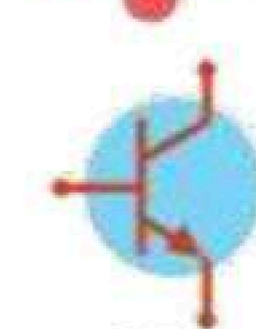
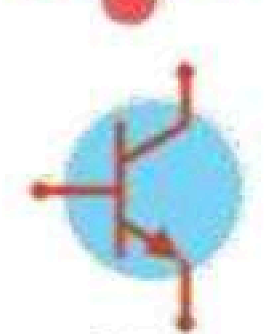
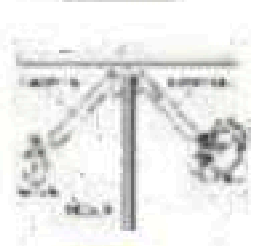


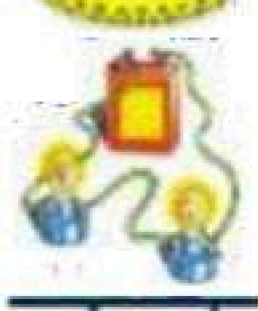


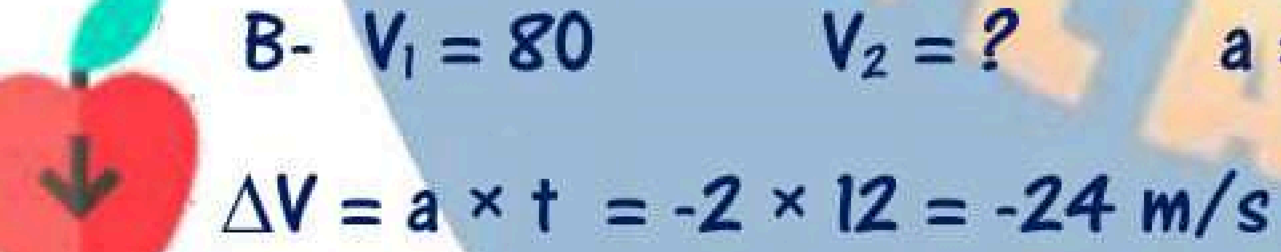
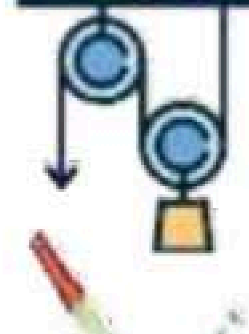
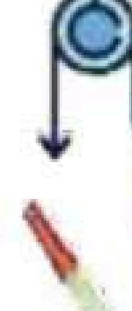


2-

Velocity m/s (y-axis: 0, 10, 20, 30, 40, 50, 60, 70, 80)
Time S (x-axis: 0, 1, 2, 3, 4, 5, 6)

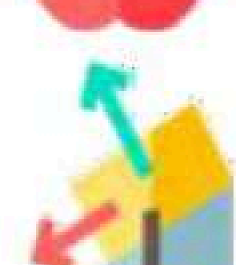




B- $V_1 = 80$ $V_2 = ?$ $a = -2\ m/s^2$ $t = 12\ sec$

$\Delta V = a \times t = -2 \times 12 = -24\ m/s$

$V_2 = \Delta V + V_1 = -24 + 80 = 56\ m/s$



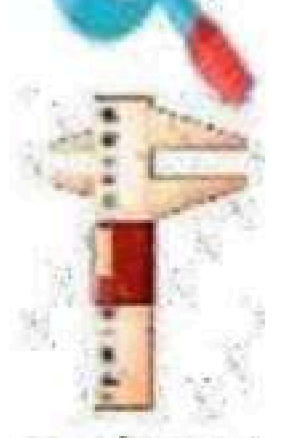


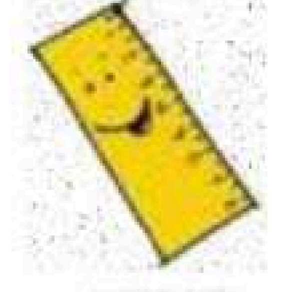
Answer Q5

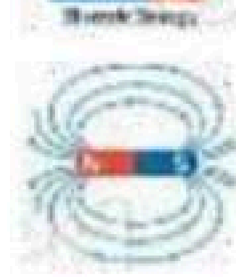
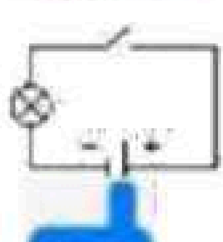
A – 1- its size contracted and its revolving speed around itself increases.

2- the genetic variation occures among the members of the same species.

3- cancelled.





Stage: Grade 9(Prep.3)

Channel: Mr. Science





Mr science

Science questions

Subject: Science

Year: 2021

Model exam (1)

choose the correct answer:

1. **The two factors that describe the motion of body are**

   (speed & time– distance & time - area & time – displacement &speed)

2. From vector quantities .... (mass – time - length – displacement)
3. From living organism that reproduce by budding ....

   (mushroom – yeast fungs - star fish – amoeba)

4. Spherical mirror its radius 20 cm, its focal length equal.. (10 -20 – 40 – 60)
5. The light ray which fall passes through the optical center of length it .....

   (refract through the focus – refract parallel to principal axis – passes without any refraction)

6. The solar system is located in ....(the center of galaxy – the edge of galaxy – nebula)

Model exam (2)

choose the correct answer:

1. The light ray which fall passes through the focus of concave mirror it reflect .....

   (through the focus – parallel to principal axis – on itself – through its pole)

2. From scalar quantities .... (mass – acceleration – velocity – displacement)
3. A body is put in the front of concave length an equal image is formed at a distance 10cm from the pole of mirror so its focal length = ... (2 – 5 - 10 - 20)
4. Universe is formed from the merging of ....&..... particles.

   (Oxygen& nitrogen – Oxygen& hydrogen - nitrogen &helium - hydrogen& helium)

5. The offspring produced from asexual reproduction carryout the traits ....the parent

   (differ from – identical to – carry both male and female traits)

6. The phase that included adverse changes in mitosis cell division is ....

   (prophase – metaphase – anaphase - interphase)

Model exam (3)

choose the correct answer:

1. The ability of some animals to compensate their missing parts is................
   (budding – binary fission – vegetative – regeneration)
2. A gaseous flaming sphere that form solar system (near - medium – far – near & far)
3. A light ray fall on a plane mirror with incident angle equal 30 ,So the reflected angle equal
   (20 – 30 – 60 – 90)
4. A body starts its movement from rest after 2 sec. its speed reaches to 10 m/s ,so the change in the speed of body after 2 sec=......m/s^2. (5 - 8 – 10 – 20)
5. The sight defect which is resulted from the decrease in eye ball diameter is............................
   (shortsightedness - cataract – longsightedness – blindness)
6. The ratio between total distance to the total time need to cover this distance is ....
   (final speed – displacement – average speed – relative speed)

Model exam (4)

choose the correct answer:

1. It is the actual length that the body cover from initial position to its final position
   (final speed – displacement – average speed – distance)
2. A body of length 10 cm is put in the front of concave lens at a distance 4 cm from its optical center, so the length of the body's image equal... (3 - 10 – 15 – 20) cm
3. After 10000 million years from big bang the .... is formed
   (sun – ancestral of galaxies – earliest life - no correct answer)
4. ....scientist stablished the modern theory. (Laplace – chamberlain & molton- hoyle)
5. The phase at which chromosomes pairs are arranged along cell equator is ....
   (interphase – prophase1 - metaphase – metaphase1)
6. In animal cell Spindle fiber is formed from..(cytoplasm – centrosome– nucleus -centromere)

Model exam (5)

1) choose the correct answer:

1. A car move with speed =10 m/s find its relative speed related to an observer move with the same speed and same direction (0 - 10 – 20 – 30) m/s
2. A body of length 5 cm is put in the front of concave mirror at a distance 4 cm from its pole, an image virtual, erect and magnified image is formed for the body so the body is put at

   (distance more than double focal length - distance between center and focus

   distance less than focal length)
3. .... Theory explain the origin of universe .

   (nebular – big bang – crossing star – modern)
4. In crossing star theory the solar system was a.... (nebula – sun – other star – other planet)
5. The type of reproduction in plants which not reproduce by seeds ....

   (vegetative – budding – regeneration – binary fission)
6. In plant cell Spindle fiber is formed from..(cytoplasm – centrosome– nucleus -centromere)

Model exam (6)

1) choose the correct answer:

1. If the relative speed of a car is 50 km/h relative to an observer in a bus move in the same direction at 70 km/h therefore the actual speed of this car is ....km/h

   (20 - 70 - 120 - 170)
2. **If the angle between the incident ray and the surface of mirror is 130 , therefore the angle of reflection = ...** (40 – 50 – 90 - 130)
3. Fred hoyle assumed that the sun controls in the orbit of planets around it due to ......of the sun (temperature – rotational speed – the attraction force -glowing)
4. If the nucleus of maize pollen grain contains 10 chromosomes then the nucleus of somatic cell of the plant contain ....chromosomes (5 – 10 – 15 – 20)
5. The source of genetic variation is due to ......reproduction

   (sexual – a sexual – vegetative – regeneration)
6. A ......is used to correct the short sight defect ....

   (convex lens – convex mirror – concave lens – concave mirror)

Model exam (7) قم بحله وارسال الحل في تعليقات الفيديو في قناة مستر ساينس على اليوتيوب

1) choose the correct answer:

1. If a car speed is 50 m/s and the driver used the breaks to stop the car ,there fore the time needed to stop the car if it moves with uniform acceleration = 10 m/s²

   (5 - 10 - 20 - 25) sec

2. **If the angle between the incident ray and the surface of mirror is 60 , therefore the angle of reflection = ………..** (20 -30 - 50 - 60)

3. Chromosome chemically consists of nucleic acid ……and protein

   (HNO3 - H2SO4 – DNA – CFC)

4. If the nucleus of a muscle cell of rabbit contains 22 pairs of chromosomes then the nucleus of sperm cell of …….chromosomes (11 – 22 – 44 – 46)

5. ……………phenomena take place at the end of prophase 1

   (big bang - aurora – crossing over – regeneration)

6. A ……is used to correct the long sight defect

   (convex lens – convex mirror – concave lens – concave mirror)

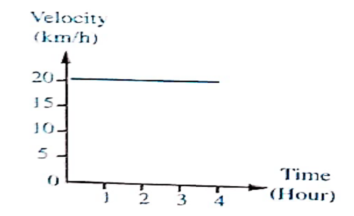
Model exam (8)

1) choose the correct answer:

1. The convex lens which has the great thickness its focal length is …………….

   (4 - 6 - 8 - 10) cm

2. **the following graph refers to ……** (static body – uniform speed – uniform acceleration)



3. if the speed of car equal 72 km/h this means that its speed equal ……..

   (16 - 18 – 20 – 40) m/s

4. reproduction in yeast and starfish depends on……….

   (Fertilization – regeneration – mitotic division _ meiotic division)

5. the source of stars energy is ……………….

   (chemical reactions – burning gases – inflammable gases- nuclear reaction)

6. the image formed by concave lens is always …………………..

   (erect &magnified - inverted & small – virtual & small – real & magnified)

1

CAIRO GOVERNORATE
CAIRO EDUCATIONAL DIRECTORATE
THE COMPLETION OF THE BASIC EDUCATION CERTIFICATE
EXAM. FIRST TERM , 2010 - 2011

SCIENCE TIME : 2 HOURS

امتحان شهادة إتمام الدراسة لمرحلة التعليم الأساسى (عام) الفصل الدراسى الأول ٢٠١٠ – ٢٠١١

العلوم بالإنجليزية (الأسئلة فى أربع صفحات على وجهى الورقة) الزمن : ساعتان

ANSWER THE FOLLOWING QUESTIONS IN YOUR ANSWER PAPER

Question (1) :

A) **Complete the following statements with the suitable words :**

1) The point that is in the middle of the reflective surface of the spherical mirror is ..Normal........

2) The value of change of an object's speed in one second is ..accelration....

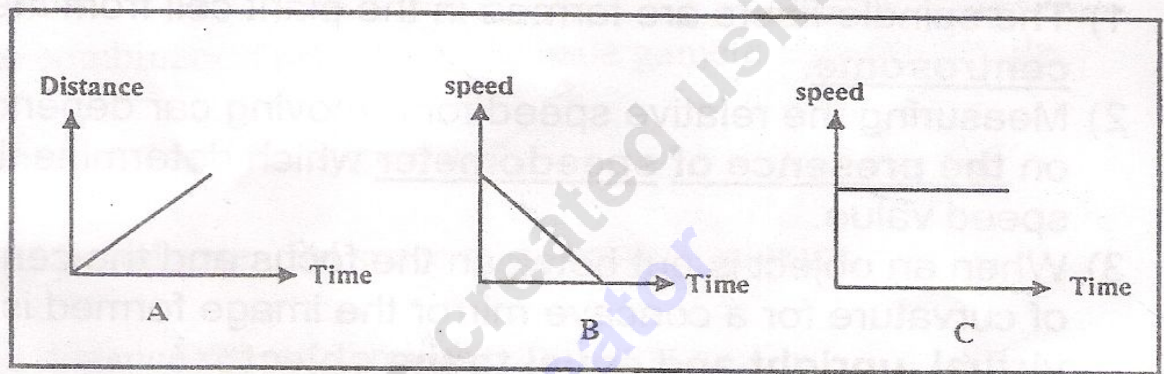
3) Meiosis division occurs in the anther of a flowering plant to produce ..asexual........ .

4) The solar system is located in one of the spiral arms of .... galaxy. milk way

B) Show by a labeled diagram only the properties of the image formed by a concave lens, when the object is at a distance equal double the focal length.

(بقية الأسئلة فى الصفحة الثانية)

C) The following graphs (A,B,C) each of them represent the motion of a body . Describe the motion of this body in each case.



Question (2) :

A) **Mention what would happen in each of the following cases:**

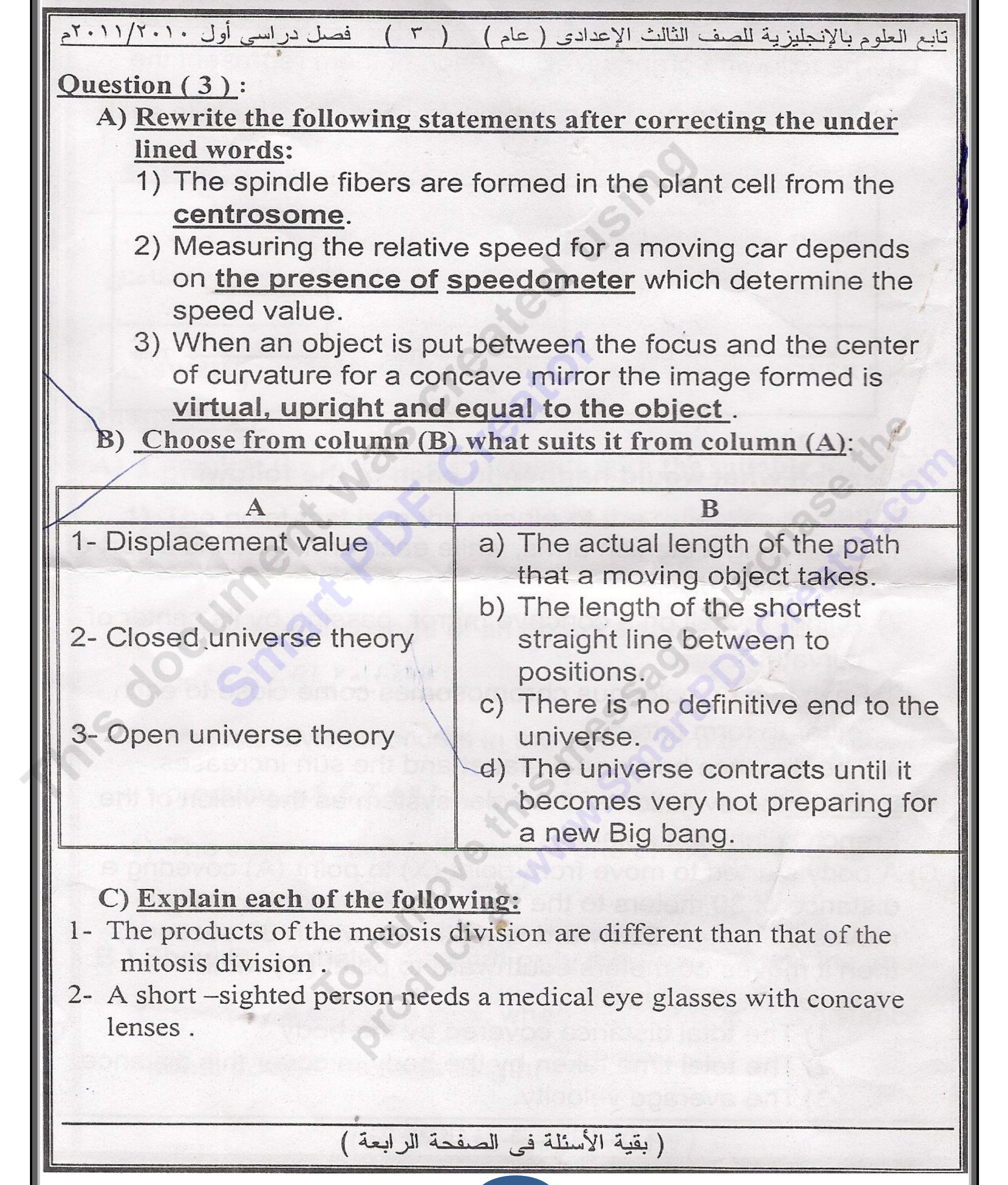
1) Separating a starfish arms, while each arm contains a part of the central disc.
2) A light ray fall on a concave mirror passing by its center of curvature.
3) Each two homologous chromosomes come close to each other to form tetrad.
4) The distance between a planet and the sun increases.

B) **Explain** the evolution of the solar system as the vision of the French scientist Laplace .

C) A body started to move from point (X) to point (A) covering a distance of 30 meters to the North in 20 seconds ,then it moves 60 meters Eastward to point (B) within 30 seconds, then it moves 30 meters southward to point (C) within 10 seconds. **Calculate:**

1) The total distance covered by the body.
2) The total time taken by the body to cover this distance.
3) The average velocity.

(بقية الأسئلة فى الصفحة الثالثة)



Question (3) :

A) **Rewrite the following statements after correcting the under lined words:**

1) The spindle fibers are formed in the plant cell from the **centrosome**.
2) Measuring the relative speed for a moving car depends on **the presence of speedometer** which determine the speed value.
3) When an object is put between the focus and the center of curvature for a concave mirror the image formed is **virtual, upright and equal to the object** .

B) **Choose from column (B) what suits it from column (A):**

A	B
1- Displacement value	a) The actual length of the path that a moving object takes.
2- Closed universe theory	b) The length of the shortest straight line between to positions.
3- Open universe theory	c) There is no definitive end to the universe.
	d) The universe contracts until it becomes very hot preparing for a new Big bang.

C) **Explain each of the following:**

1- The products of the meiosis division are different than that of the mitosis division .

2- A short –sighted person needs a medical eye glasses with concave lenses .

(بقية الأسئلة فى الصفحة الرابعة)

Question (4) :

A) **Write the scientific term for each of the following statements:**

1) The combination process of the male gamete with the female gamete to form the zygote

2) A wide and extended space that contains galaxies.

3) The distance moved through a unit time.

4) The straight line that passes by the pole of the mirror and its centre of curvature .

B) **Give reason for:**

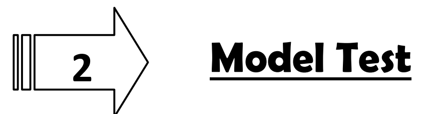
1) Force and acceleration are vectors physical quantities.

2) The length of the day differ from one planet to another.

3) The light ray falling perpendicular on the reflecting surface reflects on itself.

C) What is the general structure of the chromosome? Explain by the help of a labeled diagram.

(انتهت الأسئلة مع دعواتنا لكم بالنجاح)



Model Test

Question One

A. Complete the following statements:

1. ………………….. & ………….. are considered from scalar physical quantities.
2. The shortest year is on ……………… planet.
3. The gamete contains …………… the number of chromosomes found in somatic cells.
4. …………… lens is used to treat long sighted person.
5. During metaphase ……………. Moves towards the equator of the cell.

B. Give reasons for the following:

1. On their flights, pilots take into consideration the velocity (speed & direction) of the wind.
   Answer: In order to calculate the amount of fuel needed to complete the trip. The plane which flies against the direction of the wind faces air resistance & needs more fuel than that flies in its direction.
2. Planets are kept in their orbits around the sun.
3. Acceleration might be decreasing.
   Answer: When the car's speed decreases the movement decreases & it's described as deceleration.
4. There's one principle axis in the spherical mirrors.
   Answer: That's because the mirror is part of one hollow sphere.

Question 2

A. Choose the correct answer:

1. The chromosomes chemically consist of ………..
   a. Nucleic acid (DNA) b. proteins c. carbohydrates d. a and c

2. Asexual reproduction occurs in yeast fungus through ……………..
   a. regeneration b. budding c. gametes d. vegetative reproduction

3. The focal length of a concave lens is 6 cm so the radius of this lens is ……….
   a. 3 cm b. 6 cm c. 9 cm d. 12 cm

4. An object is placed in front of a concave mirror at a distance less than double the focal length, so the properties of the image formed are ……………..
   a. virtual , enlarged image
   b. real , small image
   c. real , enlarged image
   d. virtual , small image

5. The period of time taken by Saturn to rotate around the sun is ……………
   a. 12 years b. 29 years c. 84 years d. 165 years

6. ……………. contains the genetic material from both parents & grows to become an individual with combined traits from both parents.
   a. gamete b. zygote c. cytoplasm d. chromosome

B. What's meant by?

1. Average speed
2.Galaxies

Question 3:

A. Compare between each of the following:

1. Somatic cells & gametes in terms of the no. of chromosomes.
3. The center of curvature of the lens
4. The first law of light reflection
2. Mitotic division & meiotic division in terms of site occurrence & the purpose of the division.
3. Sexual reproduction & asexual reproduction in terms of no. of parents & genetic traits of the resulting offspring.
4. Regeneration & budding.

B. Mention one function or one use for the following:

1. The convex lens 2. Hubble telescope
3. Light year 4. Contact lens

Question four

A. What happens if?

1. There's no gravity to keep the planets in their orbits around the sun.
2. The inner parts of chromatids in each tetrad are exchanged through prophase I of the first meiotic division.

B. Write the scientific term for the following:

1. The change in object's location as time passes according to the location of another object.
2. The disease which infects the eye & makes the lens opaque.

C. A car moves with a speed 140 km/h Calculate the distance (in meters) covered by the car in a period of time = 7 seconds.



Model Test

First Question

A. Complete the following statements:

1. If a body starts its motion from rest therefore its initial speed equals ………….
2. The presence of the moon between the earth & the sun results in the phenomenon of …………
3. The chromosome consists of …………. connected at the ………
4. Asexual reproduction in bacteria occurs by …………..
5. Crossing over occurs in ………….. phase of cell division.
6. The offspring resulting from …………… reproduction has characteristics different from its parents.

B. Give reasons for the following:

1. Crossing over during meiosis causes the variation of traits.
2. Acceleration sometimes is increasing.
3. The lens has 2 foci while the spherical mirror has one focus.
4. The galaxy where earth is found is called the Milky Way.

Second Question

A. Choose the right answer:

1. When a light ray falls on a smooth surface the light ray ……..

a. reflects b. refracts c. passes without refraction

2.Meiotic division occurs in ………….. cells

a. liver b. ovary c. testis d. b and c

3. If a light ray falls on a convex lens passing through its focus then:

a. It penetrates passing without refraction
b. Refracts parallel to the principle axis
c. Passes through the optical center without refraction
d. No right answer

4. The parent individual disappears when the reproduction occurs in ………

a. bacteria b. yeast bread mould d. all the previous

5. Which of the following is a scalar quantity?

a. length & area b. displacement & acceleration
c. mass & force d. no right answer

B. What's meant by the following?

1. The focus of the lens.
2. Displacement
3. Velocity
4. The principle axis of the mirror

Third question

A. Put (√) in front of the right statements & (x) in front of the wrong statements:

1. The images formed by lenses are real or virtual.
2. The acceleration is negative when its value is increasing.
3. The planets revolve around the sun in orbits.
4. The spherical mirror has two axes.
5. Physics use some mathematical means such as graphs & tables.

B. If the angle between the reflected ray & the reflecting surface is 50° find the angle of incidence.

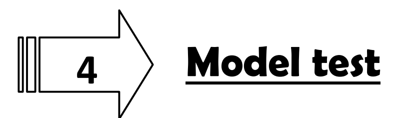
Fourth Question

A. What happens when?

1. The average velocity is the same as the constant velocity.
2. A plane mirror is placed on the left of the driver instead of the convex mirror.
3. Yeast is added to a warm sugar solution.

B. If a person stands at a distance of 4 meter from a plane mirror. What's the distance between the person & his image in the mirror?

C. Compare between the nebular theory & the crossing star theory.



Model test

First question:

A. Complete the following statements:

1. The solar system is found in one of …………. on the edge of the milky way galaxy

& it finishes one complete cycle around the center of the galaxy every ……… year.

2. The spindle fibers in the animal cell consist of …………. While in the plant cell it consists of the condensation of ……… at the poles.

3. The angle of reflection of a light ray falling perpendicularly on a reflecting surface equals …………. Therefore it reflects ………….

4. Asexual reproduction in bacteria occurs by ….... while in mushroom it occurs by ……

B. What's the relation between the genetic structure of the parent & the offspring in the following cases?

1. Binary fission in paramecium

2. The plant that results from growing seeds.

C. Explain what happens in the following cases:

1. The fusion of dust with ice & gases in the solar nebula.

2. A body is placed at the focus of a convex lens.

3. The planets become nearer to the sun than its real positions.

4. The solar nebula cools according to Laplace.

Second Question

A. Write the scientific term:

1. The phase where the processes that prepare the cell for division occur also the amount of genetic material is doubles.

2. The straight line that passes through the center & pole of the mirror.

3. The unit used to measure distances in the universal space.

4. The ability of some organisms to renew their missing parts.

5. The expansion of the universe & the fusion of atomic particles forming hydrogen & helium.

B. Explain by a diagram the way of formation of sperms in humans.

C. The following table explains the relation between the displacement & time for a body which moves in a certain direction:

Displacement (meter)	12	24	36	48
Time (second)	2	4	6	8

From the previous table **describe** the movement of the body then **calculate** the velocity of this body.

Third Question

A. What's the phase of cell division in the following situations:

1. Homologous chromosomes connected to the spindle fibers arrange on the cell's equator.

2. Crossing over occurs

B. Show by a diagram the properties of the image formed for an object placed in front of a convex lens at a distance more than the focal length & less than double the focal length showing the path of the light rays.

C. A car covered 100 meters north in 40 seconds then 200 meters east in 100 seconds then 100 meter south in 20 second then returned to the starting point in 80 seconds. Calculate the following:

1. The total distance which the car moved

2. The total time used 3. The average speed

4. The displacement 5. The velocity

Fourth Question

A. Give reasons for the following:

1. Sexual reproduction is a source of genetic variation

2. The length of the year is different form a planet to another.

3. A concave lens is used in treating short sight.

B. Compare the following:

1. Mitosis & meiosis as to the number of resulting cells m the importance & the site of occurrence.

2. The nebular theory, the crossing star theory & the recent theory as to the origin of the solar system.

C. Choose the right answer from between brackets:

1. Which of the following is a vector quantity?

(Length & area – displacement & acceleration – mass & force).

2. The two factors which are needed to describe the motion of a body are:

(speed & time – distance & time – area & time)

3. The size of the image formed by the plane mirror is always ……..

(Bigger than the size of the body – equal to the size of the body – smaller than the size of the body).



Model Test

First Question

A. Complete the following statements:

1. Galaxies exist in the shape of ………….. such as the …………… galaxy that contains the sun.

2. The convex mirror reflecting surface is part of the ………… surface of the sphere while the converging mirror reflecting surface is part of the ………….. surface of the sphere.

3. Displacement is ……….. quantity while density is …………….. quantity.

4. Reproduction has 2 types …………….. and …………………..

5. The unit of measuring acceleration is …………..

6. Fertilization is the fusion of …………. with ……………. to form ………..

B. Correct the following statements:

1. The universe expanded & the fusion of the atomic particles formed oxygen & nitrogen gases.

2. A concave mirror with a focal length = 10 cm therefore the radius of the sphere is 5 cm.

3. Contact lenses are very thin lenses made of glass.

4. Acceleration is the rate of change of distance with speed.

Second Question

A. Write the scientific term:

1. The ability of some animals to compensate the missing parts.

2. A division that occurs in the somatic cells of living organisms.

3. The force that keeps planets in their orbits around the sun.

4. The distance which light covers in one year.

5. The line passing through the 2 centers of curvature of the spheres, it also passes through the optical center.

6. The pouncing of light in the same medium when it meets a reflecting surface.

B. Compare between:

1. Regular speed & irregular speed

2. Displacement & distance

Third Question

A. Give reasons for the following:

1. Asexual reproduction produces offspring identical to the parents.

2. it's difficult to measure the uniform velocity.

3. When an object is placed at the focus of a convex lens no image is formed.

4. Concave mirrors can be used to generate a large amount of heat.

B. A car moves in a straight line. Its speed changes from 8 m/s to 16 m/s in a period of 4 seconds. Calculate the value of the acceleration.

Fourth Question

A. Choose the right answer:

1. The scientist who established the Nebular theory is ………

a. Newton b. Einstein c. Alfred Hale d. Laplace

2. Crossing over occurs at the end of ………

a. prophase I b. interphase I c. metaphase I d. anaphase I

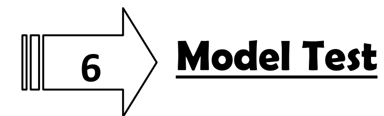
3. The light ray which falls parallel to the principle axis of a concave mirror …………

a. reflects passing through center of curvature
b. reflects on itself
c. reflects passing through the focus
d. reflects parallel to the secondary axis.

B. Write brief notes about:

1.The crossing star theory

2. Crossing over
3. Binary fission
4. The way gametes are formed



Model Test

First Question

A. Complete the following statements:

1. One of the forms of asexual reproduction is ………… & it occurs in unicellular organisms such as ………….. & multicellular organisms such as ………….. & …………………

2. The point in the middle of the reflecting surface of a concave mirror is called …………..

3. Displacement is defined by …………….. & …………..

4. Dividing total distance by the total time taken by the body is …………..

5. Chromosomes are at the equator of the cell in the ……… phase.

B. Correct the following statements:

1. When the average speed isn't equal to the uniform speed then the body covers unequal distances in unequal time intervals.

2. Somatic cells divide by meiosis which causes the growth of living organisms & compensation of dead cells.

3. Mass is an example of vector quantities.

4. Crossing over occurs at the end of prophase I.

5. Long sight is treated by concave lens.

Second Question

A. Write the scientific term:

1. A galaxy which contains the sun & the solar system.

2. A point inside the lens on the principle axis in the mid distance between its faces.

3. It includes all the galaxies, stars & planets.

4. The straight line passing through the pole of the mirror & the center of curvature.

5. The uniform speed by which a body moves to cover the same distance in the same time needed to cover this distance.

6. The point of connection of the 2 chromatids.

B. Compare between:

1. Meiosis cell division & mitosis cell division.

2. The nebular theory & the crossing star theory.

Third Question

A. Give reasons for the following:

1. Earth is kept in a fixed orbit around the sun.

2. The length of the day differs on different planets.

3. Convex lens is used to treat long sight.

4. There's a difference between the average speed & velocity.

B. A runner covers 50 meters in a race in 5 seconds. Calculate the average speed of the runner.

Fourth Question

A. Choose the right answer:

1. The scientist who established the modern theory of the world is …………….

a. Molten b. Alfred Hale c. Laplace d. Chamberlain

2. The unit of measuring acceleration is …………

a. m/s b. m.s c. m/s^2 c. m/s^3

3. Bread mould reproduces by ……………

a. regeneration b. budding c. binary fission d. spores

4. The light ray that falls passing through the optical center of the convex lens penetrates ……………..

a. without refraction b. in the form of parallel rays

c. passing through the focus d. parallel to the principle axis

B. Write short notes about:

1. the function of DNA
2. The second law of reflection
3. Vegetative reproduction
4. Fertilization



ISMAILIA GOVERNORATE
DIRECTORATE OF EDUCATION
BASIC EDUCATION CERTIFICATE EXAMINATION
FIRST TERM 2019 / 2020

SCIENCE **TIME : 2 HOURS**

تنبيه : الأسئلة فى ورقة واحدة من الوجهين

ANSWER THE FOLLOWING QUESTIONS

QUESTION 1

[A] *Complete the following statements with suitable words :*

1- The chromosome chemically consists of protein and .... called DNA, which carries .... of the living organism .

2- Acceleration is considered one of .... physical quantities, while time is considered one of .... physical quantities .

3- Real image is not formed by .... lenses, ... mirrors and plane mirrors.

[B] Compare between Nebular theory and modern theory concerning the name of the scientist .

[C] A car moves from rest and its speed reaches 25 m/sec in 10 seconds :

1- Calculate the acceleration.

2- Mention the type of acceleration.

QUESTION 2 :

[A] *Write the scientific term for each of the following statements :*

1- The regular speed by which the moving object moves to cover the same distance at the same period of time.

2- The length of the shortest straight line between two positions.

3- The cells formed of reproductive cell inside living organisms by meiotic division.

4- Disease infects the eye lens, so it becomes dark (opaque).

5- The force that controls in the orbits of planets around the sun.

[B] *When do this following happen ....?*

1- The relative speed of a moving object relative to an observer is more than its real speed.

2- The distance covered by a body equals the amount of displacement happened.

[C] *The opposite figure shows a yeast fungus answer*:-

1- What is the type of asexual reproduction.

2- What happen to both 1 , 2 during the reproduction process.





QUESTION 3 :

[A] *Correct the underlined words:-*

1- Pilots take in consideration the <u>uniform</u> speed of the wind.

2- The long- sightedness is corrected by using a <u>concave mirror</u>.

3- The old stars gather in the <u>edges</u> of the galaxy.

4- In the rabbit cell, the spinal fibers are formed from <u>condensing the cytoplasm at the cell poles</u>.

5- When an object moving at a uniform acceleration, this means that its speed is <u>zero</u> .

[B] *From the opposite figure in which position from 1 : 3 is suitable to put the object to from:-*

1- Real, inverted and diminished image.

2- Virtual, upright and enlarged at the same side of object.

3- There is no image is formed.

3 2 1
C F F C

[C] *What are the results on .... ?*

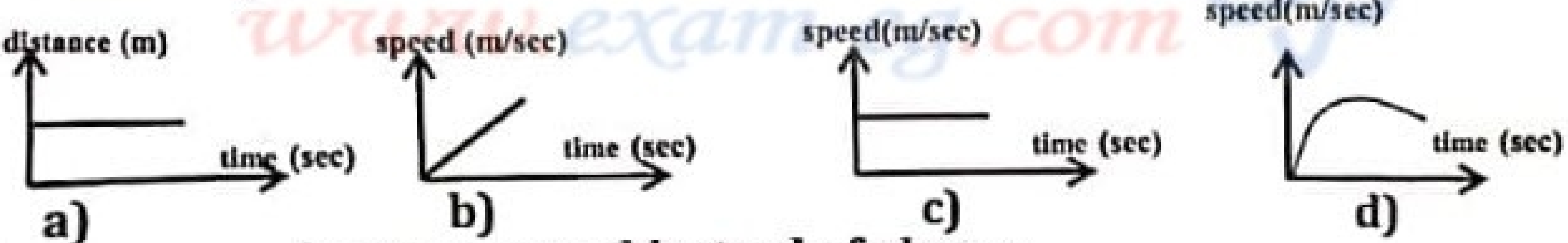
1- The incident light ray passes through the Centre of curvature of the concave Mirror.

2- Crossing over phenomenon occurs.

QUESTION 4 :

[A] *Choose the correct answer from the following:-*

1- Which of the following graphs describes the movement of an object moves at a constant speed.



2- .... lenses are used instead of glasses.

a) Concave . b) Convex. c) Contact . d) cylindrical .

3- The cells which are not divided at all are .... cells.

a) Adult red blood. b) stomach. c) liver . d) skin.

4- The two gases which produced galaxies, stars and universe over millions of years are ....

a) oxygen and helium. b) Helium and Hydrogen . c) Oxygen and Hydrogen. d) Helium and Nitrogen.

5- The cell is preparing to enter to meiotic division with the amount of the genetic material duplicates in .... phase.

a) prophase 1 b) interphase. c) metaphase 1 . d Telophase 1 .

[B] A hand-ball field in the form of a rectangle of 18 meters long and 3 meters wide what is the a mount of distance and displacement covered by a player moves around the field one complete cycle.

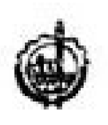
[C] *The figure in front of you shows one of the phase of a somatic animal cell:-*



1- What is the name of this phase and the phase that precedes it?

2-What type of division does this phase belongs to?

Good luck انتهت الأسئلة





المادة : العلوم (مترجم انجليزي)
الزمن : ساعتان

محافظة القليوبية
مديرية التربية والتعليم

امتحان الفصل الدراسي الأول للإعدادية العامة لعام ٢٠٢٠م

Answer the following questions:

1 **A) Choose the correct answer in brackets :**

1- The convex lens which has great thickness from the following , its focal length is ....
(4 cm – 6 cm – 8 cm – 10 cm)

2- The binary fission reproduction takes place in .... (Ameoba and Hydra – yeast and bacteria – Amoeba and sponge – Bacteria and Euglena)

3- Within minutes of big bang the universe becomes two gases which are............
(Hydrogen and helium – Hydrogen and oxygen – oxygen and Helium – Hydrogen and nitrogen)

4- From the scalar physical quantities .... (radius and area – time and force – acceleration and speed – mass and displacement)

5- The organs consists of cells which differ from each other in number of chromosomes. Which of the following choices are right ?

The choices	(a)	(b)	(c)	(d)
The organ	liver	testes	uterus	ovary
Its cells has (2n)	✓	x	✓	✓
Produce cells which has (n)	✓	✓	x	✓

B) What are the results which happens due to the following ...?

1- A nuclear explosion for a star near the sun (according to Fred Hoyle theory)

2- A starfish loses one of its arms which has a part of the central disc.

3- Putting an object in front of convex lens at its focus.

C) Study the following figure which explains the steps of one of the biological phenomenon, then answer the following questions:

1- What's the name of this phenomenon ?

2- Mention the phase in which that phenomenon occurs.

3- What is the type of its division?

4- What are the results which are produced if that phenomenon did not happen ?

2 **A) – Write the scientific term of each statement from the following :**

1- Asexual reproduction occurs by different parts of the plant without needing seeds.

2- The actual length of the path that a moving object covers from the starting point to the ending point .

3- Arrangement, harmony and distinctive shapes of the groups of stars in the universe.

4- Thread like bodies present in the cell's nuclei and they represent the genetic material of the living organism.

5- An optical piece that is used to treat a vision defect which causes the formation of image in front of the retina .

B) Two cars start their movement on an inclined road at the same moment, the first car rises up the inclined road with regular speed equal 30 m/sec. and the second car moves down the inclined road with initial speed equal 10 m/sec , and uniform acceleration of 5 m/sec^2. If the two cars meet each other after 5 seconds passes from that moment find the relative speed of the first car that is observed by the driver of the second car when meeting of the two cars.

C) When will the following things happen ...?

1- The distance covered by a body equals the amount of its displacement .

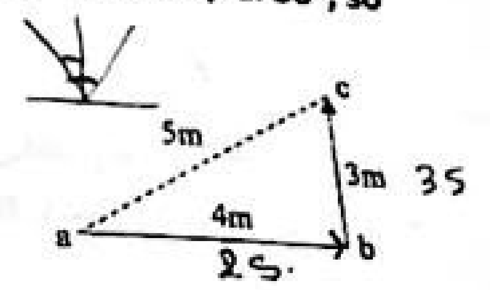
2- Reflection of light ray falls on spherical mirror on itself.

بقية الأسئلة في الورقة الثانية :

3 **A) Rewrite the following statements after correction of the underlined part:**

1- If the angle between the incident light ray and the reflecting surface equal 30°, so the angle of reflection equal <u>30°</u> .

2- In the opposite figure an object moves Eastward from point (a) to point (b) during two seconds, then to point (c) Northward in 3 seconds, so its velocity through that period is <u>1.4 m/sec</u>.



3- Yeast fungus reproduces asexually by <u>regeneration</u> .

4- An object moves in a circular both its radius (r) to cover a distance equal (πr), so its displacement equals <u>$2\pi r$</u>

5- When the object covers the double of distance at the same time, so its speed <u>decreases to quarter</u> .

B) A car moves in straight line , and its speed recorded within 30 seconds, then, it was represented graphically as shown in the opposite figure :

From the graph extracts the needed information to complete the following table:

Phases of the car movement	Phase a b	Phase b c	Phase c d
The initial speed (V_1)	....	25 m/sec	....
The value of acceleration	2.5 m/sec²	....	....
The description of movement	....	....	The car moves with negative acceleration

C) Mention one difference between each of the following:

1- Regular speed and irregular speed.

2- The virtual image of an object which is formed by each of concave lens, and convex lens.

4 **A) Give reasons for each of the following:**

1- Pilots take in consideration the velocity of the wind during flying.

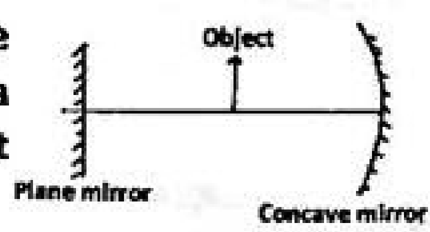
2-The mitotic division is very important for the child's body and not the meiotic division.

3- The universe is in a continuous expansion .

4- Most of people can't write in a correct way, while they are seeing the paper through a plane mirror.

5- The reproduction by spores is one of the forms of asexual reproduction

B) <u>In the opposite figure :</u> An object was put in the mid distance between a concave mirror (its focal length is 10 cm) and a plane mirror, so the image was formed by the plane mirror at a distance 30 cm from the object.



1- Draw the path of light rays for the formed image by the concave mirror.

2- Mention the properties of the formed image by using the concave mirror.

C) Mention the name of the phase in which the following changes occur during the cell division:

1- At its end the nucleolus and nuclear membrane disappear.

2- Two identical and separated groups of chromatids are formed.

(انتهت الأسئلة)

Aswan Governorate
Aswan Educational Directorate
3rd year Preparatory
العلوم باللغة الإنجليزية
مدارس اللغات الرسمية والخاصة



First Term Exam 2019/2020
Subject : Science
Time allowed : 2 hours
امتحان الشهادة الإعدادية العامة
الفصل الدراسى الأول ٢٠١٩ / ٢٠٢٠ م

تنبيه : أسئلة هذا الامتحان فى صفحتين

Answer the following questions :

* The First question :

(A) Complete the following :

1- A long-sighted person needs a medical eye glasses with a .... lens.
2- If the body moves from rest so, its initial speed equals ....
3- The scientist Laplace founded the .... theory to explain the origin of the solar-system.
4- The spindle fibers are formed from .... in animal cell.

(B) Mention the type of asexual reproduction for each of the following :

1- Sponges. 2- Starfish.

(C) A car moves with speed 80 m/sec. If the driver used the brakes to decrease the speed so, it decreases by 2 m/sec^2.
Calculate its speed after 12 seconds from using the brakes.

---

* The Second question :

(A) Choose the correct answer :

1- The number of chromosomes in each somatic cell and the sperm of the living organism in respectively is .... chromosomes.
a) 6 , 12 b) 5 , 6 c) 8 , 8 d) 12 , 6

2- The glowing and explosion of stars as the sun due to ....
a) chemical reaction b) nuclear reaction
c) burning of gases d) flammable gases

3- If an object is placed at a distance more than the twice of the focal length from convex lens its focal length 5 cm and the image which formed of an real, inverted and smaller at a distance .... cm.
a) 3 b) 5 c) 8 d) 10

4- Which of the following graphical relation represents the movement of an object at a uniform acceleration ....

Speed (m/sec) — Time (sec.) (a)
Distance (m) — Time (sec.) (b)
Distance (m) — Time (sec.) (c)
Speed (m/sec) — Time (sec.) (d)

(B) Give reason :

1- The moving car with a certain speed seems to be at rest to relative the moving observer with the same speed and in the same direction.
2- No image is formed for an object placed in the focus of convex lens.

بقية الأسئلة فى الصفحة الثانية

(C) Mention one importance for :

1- The nuclear acid DNA in chromosome.





2- Speedometer in cars and planes.

✵ The Third question :

(A) Write the scientific term :

1- The covered straight distance by moving object in a constant direction.

2- Asexual reproduction by using plants organs except seeds.

3- A theory explains the origin of the universe due to emerged from the particles of helium and hydrogen gases, since 15000 million years.

4- It has genetic material from both parents and during growth gives a new offspring carries the traits of both parents.

(B) What happen in the following cases :

1- If an incident light ray passes through the optical center of the lens.

2- If a moving body covered the same distance in a double time "according to its speed".

(C) Show by drowing only : The formation of the image of an object at the center of curvature of a concave mirror.

✵ The Fourth question :

(A) Correct the underlined words :

1- Real image cannot be received on a screen.

2- The time is a vector physical quantity.

3- The crossing star is the largest star that can be seen from the surface of the earth.

4- In the anaphase, chromosomes arranged at the middle of the cell.

(B) When the following values equals zero :

1- The acceleration of a moving body.

2- The angle of reflection of a light ray from the reflecting surface of a plane mirror.

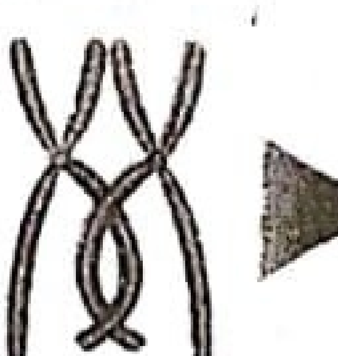
(C) The opposite figure represents a biological phenomenon :

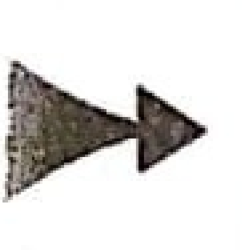
1- What is the name of this phenomenon ?

2- Mention the name of this phase which this phenomenon occurs.

3- Mention the kind of division which this phase belongs to.

4- What is the importance of this phenomenon occurrence ?







انتهت الأسئلة

مع تمنياتنا بالتوفيق والنجاح

محافظة الشرقية
مديرية التربية و التعليم
الزمن : ساعتان

امتحان الفصل الدراسي الأول للعا
للصف الثالث الإع
المادة : العلوم (ب

Question (3) :

A **Complete the following statements :-**

1. In human and animals, meiosis occurs in ...... to produce the male gametes while it occurs in ...... to produce the female gametes .
2. Physicists use mathematical relations like ...... and ...... to predict the relation between certain physical quantities .
3. The vision defect which is due to the decrease in the eye ball diameter is called ...... and is corrected by ...... lenses .
4. The two factors which can be used to describe the motion of a body are the ...... and ......
5. the chemical structure of the chromosome is ...... and ......

B **Compare between :**

1. The real image and the virtual image .
2. Crossing star theory and modern theory [according to the name of scientist ar the origin of the solar system] .

C **Show by drawing and write down the labels :**

Interphase in mitosis division .

Question (4) :

A **Correct the underlined words :**

1. The spindle fibers are formed in the plant cell from the centrosome.
2. The car which begins its movement from rest , moves at uniform speed .
3. Chromosomes are arranged at the middle of the cell in the telophase .
4. Contact lenses can stick to eye iris and can be removed easily .
5. Acceleration is the actual length of the path that a moving object takes from t starting point of movement to the end point .

B 1. **Show by drawing and write short notes about :**

Prophase 1 in the first meiotic division .

2. **Show by drawing** : The relation between (speed – time) .

Number of traial	Distance (d) in metre	Time (t) in second	Speed V = d/t(m/s)
1	0.4	5	0.08
2	0.6	7.50	0.08
3	0.8	10	0.08
4	1.0	12.50	0.08

C **In the opposite figure** : Two cars moved at the same time from (A) to (D), the first car takes the pass (ABCD) in 20 sec. and the second car takes the pass (AD) with regular speed 20 m/sec.

B 200m C
100m
A 200m D

أ Which of the two cars reach first to point (D) .
ب Calculate the velocity of the first car .

((Finished))

للعام الدراسي ٢٠١٨ / ٢٠١٩ م	م . التربية و التعليم / ٢٠١٩ م

الإعدادي (لغات)
(باللغة الإنجليزية)	(ملحوظة : يُصرف للطالب ورقة أسئلة باللغة العربية)

nswer the following questions :

estion (1) :

Choose the correct answer :

1. If the uniform speed of a car is (90 Km/h). This means that the car covers a distance equals .... metres in 40 sec . (1000 – 2000 – 2600 – 4000)
2. A light ray that falls on a plane mirror as in the figure it reflects, where the angle of reflection equals .... (30^o – 60^o – 90^o – 50^o)

   30

3. The person with normal vision sees the near objects clearly at a distance not less than .... (2 cm – 25 cm – 6 m – 10 m)
4. The ratio between the final speed and the initial speed of an object moves at an accelerating motion is .... (more than 1 – less than 1 – equal to 1 – equal to zero)
5. The earliest life forms began to appear on the Earth after .... million years from the Big Bang . (3000 – 12000 – 15000 – 17000)

Define each of the follwing :

1. Reproduction by sporogony (spore propagation) .
2. Fertilization .
3. Average speed .

A train starts to move at 6 O'clock in the morning. Then what is the time of arrival if it moves at speed of 40 Km/h to cover the distance of 200 Km.

estion (2) :

Write the scientific term of each of the following :

1. The speed of a moving object relatively to a constant or a moving observer .
2. The mirror, whose reflecting surface is a part of the inner surface the sphere .
3. It contains the sun and the solar system .
4. Asexual reproduction takes place in some plants without needing seeds .
5. A point inside the lens that lies on the principal axis in the mid distance between its faces.

Give reasons for :

1. The object that is placed at the focus of a convex lens has not an image .
2. [Distance – Time] graph of an object that moves at uniform speed is a straight line passing through the origin point.
3. Asexual reproduction in living organisms produces individuals identical in genetic structure .

In the opposite figure : An object was placed between a convex lens whose focal length is 6 Cm. and a plane mirror, A) complete the following statements :

object
12 cm
12 cm

1. The image formed of the body by a plane mirror at a distance of ...12... cm. it's surface .
2. The image formed of the body by a convex lens at a distance of ...12... cm. it's surface .
3. The distance between the image of the object which is formed by a convex lens and the image which is formed by a plane mirror equal ...48... cm.

B) Show by drawing of the formed image by the convex lens in the opposite figure .

CAIRO GOVERNORATE
CAIRO EDUCATIONAL DIRECTORATE
THE COMPLETION OF THE BASIC EDUCATION CERTIFICATE EXAM.
THE FIRST TERM , 2018 - 2019

SCIENCE — TIME : 2 HOURS

امتحان شهادة اتمام الدراسة لمرحلة التعليم الأساسي (عام) — الفصل الدراسي الأول ٢٠١٨ / ٢٠١٩م
العلوم بالانجليزية — الزمن : ساعتان

ANSWER THE FOLLOWING QUESTIONS IN YOUR ANSWER SHEET

Question (1)

A- Complete the following sentences:

1- Acceleration is considered one of ....physical quantities, while Time is considered one of ....physical quantities.

2- The solar system is located in one the........... arms of the Milky way on the edge of the galaxy.

3-Somatic cells are divided by ...., while Reproductive cells are divided by ....

B - What is meant by the following:

1-The optical centre of the lens .

2- Irregular speed.

3-Fertilization.

C – A car starts to move from rest in straight line, its speed reaches 12 m /sec. after 4 sec. . Calculate the acceleration of the car, and what is the type of this acceleration.

(بقية الأسئلة فى الصفحة المقابلة)

Question (2)

A - Choose the correct answer from between brackets:

1- Yeast fungus reproduces asexually by.........

(regeneration – binary fission – budding - spore)

2-Our solar system consists of the star and ......Planets revolve around it.

(7 - 8 - 9 - 10)

3-The image formed by .... is always virtual, erect and small.

(convex lens – concave mirror - plane mirror - convex mirror,concave lens)

4-The speed of a moving object relative to the observer is considered as....... speed. **(regular- average – vector- relative)**

5- If an object at a distance of 3 meters from a plane mirror. The distance between that object and its image is ....meter. **(3 - 6 – 9 – 12)**

B – Explain by drawing the of image formed by convex lens ,when the body at a distance greater than double its focal length. Then write the properties formed image.

C - Give reasons for the following:

1-Some persons have short-sightedness.

2- A sexual reproduction in living organisms produces individuals identical in genetic structure to those of their parent.

بقية الأسئلة في خلف الصفحة

Question (3)

A - Re-write the following statements after correcting the underlined words:

1-The chromosomes chemically consists of nuclear acid called (DNA) and fats.

2- If the radius of curvature of a concave mirror equals 20 cm. its focal length will be 30 cm.

3- In meiotic cell division, Crossing over phenomenon occurs at the end of Ana phase 1.

4-The scientist laplace assumed the modern theory about the origin of solar system.

5-In Telophase of mitosis cell division, two new separate cells are formed, each cell has half number of chromosomes of mother cell.

6-Concave lens converges the light rays that falling on its surface.

B – What would happen in the following cases:-

1- If the starfish loses one of its arms containing a part of its central disc.

2-If the incident light ray falls parallel to the principal axis of concave mirror.

(C) Mention the measuring unit for the following

1-The mass

2- vector velocity

(بقية الأسئلة فى الصفحة المقابلة)

Question (4)

A - Write the scientific term for the following:

1-The total distance that a moving object covers divided by total time taken to cover this distance.

2- The object's speed changes (increases or decreases) by equal values through equal periods of times.

3- The space which contains all the galaxies, stars, planets, moons and living organisms.

4-A biological process, where the living organism produces new individuals of the same kind and thus, ensuring its continuity.

5- The distance moved through a unit time.

6-The angle between the incident light ray and the perpendicular line on the reflecting surface from the point of incidence.

B - Compare between the following:

1-Distance and displacement (according to definition).

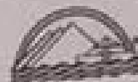
2-Real image and virtual image.

(انتهت الأسئلة مع خالص الدعاء بالنجاح)



Giza Governorate
The Educational Directorate
The Completion of Basic Education Certificate Exam

علوم E – ٣ ع – الفصل الأول



First Term 2018/ 2019

Science **Time : 2 Hours**

Answer the following questions

The First Question ⇨ A) Complete the following:

1- In Milky Way galaxy, the old stars (the older) gather in the .... of the galaxy.

2- Parental individual disappears when reproduction occurs in ....

3- The incident light ray that passes through the focus of the convex lens, it exits from the lens ....

4- Mass is considered from .... physical quantity.

B) Give reason for:

1- The body which moves at acceleration can't move at a regular speed.

2- Shrinking of spindle fibers during the anaphase.

C) Compare between:

pollen grain and sperm according to (site of formation).

The Second Question ⇨ A) Choose the correct answer:

1- Within minutes of Big Bang, hydrogen gas was formed by a percentage of .... %

[25 - 50 - 75 - 100]

2- If the number of chromosomes in liver cells of a certain living organism is (32) chromosomes then the number of chromosomes in ovum cell is ....

[8 - 16 - 24 - 32]

3- The optical piece which forms laterally inverted (reversed) and equal to the body is ....

[convex lens - concave lens - spherical mirror - plane mirror]

4- A train moves at a speed (100 Km/h), then it cover a distance of (40 Km) within time .... hours.

[0.3 - 0.4 - 0.5 - 0.6]

B) When do the following happen?

1- Formation of real image at the same position of the object which is placed in front of a concave mirror.

2- The displacement equal (identical) distance for moving body.

C) Calculate the actual speed of the car whose relative speed is (80 km/h) relative to an observer moving in opposite direction at a speed of (30 km/h)

The Third Question ⇩

A) <u>Write scientific term for each of the following:</u>

1- A theory assumed that the solar system was originally a glowing gaseous sphere revolving around itself.

2- The nucleic acid that carries the genetic traits of the living organism.

3- A mirror, always forms a diminished image for the object.

4- The displacement in one second.

B) <u>Define:</u>

1- Tetrad.

2- The focal length of a lens.

C) An object is placed at a distance of (8 cm) from a concave lens has a focal length (2 cm)

1- Draw the direction of the ray that eye sees the image.

2- Mention the properties of image formed.

The Fourth Question ⇩

A) <u>Correct the underlined words:</u>

1- Sudden violent <u>chemical</u> reactions occur within the star which led to its explosion.

2- Reproduction by sporogony occurs in <u>star fish</u>.

3- The long-sightedness is corrected by using <u>concave mirror</u>.

4- A moving car covers a distance of (200 kilometer) through (150 min), then its speed is <u>90</u> Km/h.

B) <u>What is meant by?</u>

1- A moving car covers a distance of 100 km in two hours.

2- Zygote.

C) A train moves at a speed (30 m/sec). And when the brakes is used it moves with a decelerating (3 m/sec). Calculate the time taken to stop the train.



محافظة سوهاج
مديرية التربية و التعليم
امتحان شهادة إتمام الدراسة بمرحلة التعليم الأساسى
(الفصل الدراسى الأول) ٢٠١٩ م

المادة : العلوم (الترجمة الإنجليزية) الزمن : ساعتان

لاحظ أن الأسئلة فى ورقة واحدة من صفحتين

Answer the following questions

Question 1 : (A) **Writ a suitable word to complete the following statements:-**

1 – The force is a physical quantity .... and the time is a physical quantity ....

2 – The solar system is located in one of the .... arms of .... on the edge of the galaxy.

3 – Correcting long-sightedness by using .... lens and correcting short - sightedness by using .... lens

4 – Yeast fungus reproduces asexually by .... while the amoeba reproduces asexually by......................

(B) A car moved from rest and became speed 25 m/s in 10 seconds. Calculate its acceleration. With mention of its kind.

(C) **What is meant by :**

1- The crossing over phenomenon.

2- The pole of the mirror

3- Fertilization.

Question 2 :

(A) **Correct the underlined words:**

1 – If the speed of a car is 72 km/h means its speed is = 40 m/s.

2 – In theory of BigBang the universe is formed by the cohesion of Oxygen and Nitrogen particles.

3 – Chromosomes pairs arrange on the cell's equator in anaphase1.

4 – The (distance – time) graph for regular motion at uniform speed is represented curve line passing through the origin point.

(B) Show by drawing the path of the light ray that forms the image of the objec placed front of a concave mirror at between the focus and the centre c curvature. What are the properties of the image being formed.

(C) What happens in the following cases:-

1 – The incident light ray passing through the optical center of the convex lens

2 – The nebula gradually lost its heat fallowed the theory the Laplace scientist

3 – When the fungus bread fall on a suitable environment

بقية الأسئلة بالصفحة رقم ٢

Question 3 :

(A) **Write the scientific term that correspond to each of the following :-**

1- Speed of the moving object relative to the observer resting or moving

2 - The solar system was a glowing gaseaus sphere revolving around itself

3 - The line between the centre of curvature of the lens passing by the optical centre of the lens.

4 - Is the ability of animals to compensate their missing parts.

5 - The phase which the cell preapares to division by the genetic material (DNA) duplicates.

(B) **Give reasons for each the following :-**

1 - No image is formed when the object is placed at the focus of a convex lens.

2 - Mitosis is important for children , unlike the meiosis.

3 - The perpendicular incident light ray on plan mirror reflects on itself

(C) A racer covered 50 meters northward within 30 seconds, then 100 meters eastward within 60 seconds and then 50 meters southward within 10 seconds then stop. Calculate :

1- The average speed of the racer. 2- Velocity for racer

Question 4 :

(A) **choose the right answer from brackets :-**

1 - The result of multiplying a speed of moving object by time

(acceleration - mass - distance - force)

2 - Began to form after 3000 million years after the Big Bang

(galaxy - ancestralgalaxy - the sun - the earth)

3 - When the body covers equal distances in equal periods of time the speed of the body is

(increases - decreases - irregular speed - uniform speed)

4 - If the number of the radius of curvature of concave mirror 20 cm , then the focal length of the mirror equals

(5 - 10 - 15 - 20)

(B) **Compare between :-**

1- Nebular assumption and The Modern of the world (in terms of origin of the solar system)

2- Real image and virtual image (in terms of the possibility be formed on a screen)

3- Long sighted and short sighted (in terms of the place of the image formed)

(C) - If the number of chromosomes in a human pancreas cell is 23 pairs, then what is the number of chromosomes in the following cells

1- skin cell 2- sperm 3- fertilized egg

*** **Good Luck** ***

محافظة سوهاج

مديرية التربية و التعليم

امتحان شهادة إتمام الدراسة بمرحلة التعليم الأساسى

(الفصل الدراسى الأول) ٢٠١٨ م

المادة : العلوم (الترجمة الإنجليزية) الزمن : ساعتان

لاحظ ان الأسئلة فى ورقة واحدة من صفحتين

Answer the following questions

Question 1 : (A) Writ a suitable word to complete the following statements:-

1- The vision defect which is due to a shortness in the radius of the ball is called..........

2- .... over phenomenon, contributes in genes exchanging between the chromasome's chromatids and distributing them in the gametes.

3- .... is the image that can be received on a screen.

4- ....and .... are from vector physical quantities.

(B) A body covers a distance 20 km through 4 minutes them it covers 40 km through 12 minutes. Calculate the average speed of the body.

(C) Compare between each of the following:

1- The Nebula theory and Crossing star theory. (the founder of theory).

2- Somatic cells and reproductive cells. (type of division).

Question 2 :

(A) Write the scientific term:

1 – Asexual reproduction by using vegetative organs except seeds.

2 – The unit which is used for measuring the distance betbween celestial bodies.

3 – A point located inside the lens and lies on the principle oxis and at the middle distance between its faces.

4 – The length of the actual path which covered by the moving body from the starting point to the end point of the motion.

(B) A body of length 4 cm at a distance of 6 cm from convex lens, its focal length is 3 cm :

1 – Draw a diagram to show the path of the rays falling on the lens and the refracted ones from it.

A body

C F F C

2 – Mention the properties of the formed image showing the length of the image.

(C) Give reason for each of the following scientifically:-

1 – The nebula lost its sphere from and became in a from of a flat rotating disk.

2 – The uniform velocity of a car can not be obtained practically.

3 – Shrinking of spindle fibers during the anaphase of mitosis division.

4 – The distance is a scalar physical quantity .

بقية الأسئلة بالصفحة رقم ٢

Question 3 :

(A) Choose the correct answer between the brackets : -

1- Meiosis division accurs in .... cells.

(liver -- skin -- bones -- testis)

2 – If the radius of carvature of a lens equats 40 cm soits focal length equales.....

(5 cm -- 10 cm -- 20 cm -- 40 cm)

3 – The two gases which produced galaxies, stars and universe through millions of years are ....

(Oxygen and Helium -- Hydrogen and Helium -- Oxygen and Carbon dioxide -- Hydrogen and Carbon dioxide)

4 – When the body moves by acceleration equals zero, this means that ....

(the body speeds uniform -- the body acceleratior in is increasing -- the body acceleration is decreasing -- the body velocity is variable)

(B) What is meant by:-

1- The acceleration .

2- The pole of the mirror.

3- Regeneration.

4 – The universe .

(C) Look at the following figures then answer the questions:

1 – Mention the name of each one (1) , (2)

2- At which figure the gemetic vuriation hoppens? Why?

(2) (1)

Question 4 :

(A) Correct the underlined words in the following statements:-

1- To understand many of the physical phenomena, use acceleration between different variables to describe a specific phenomenon.

2 – The nucle , disappear during the mitosis cell division in telephase.

3 – The incident light ray parellel to the principle oxis of a concave mirror is reffected passing by the curvature centre of the mirror.

4 – The concave lens collect the rays fall on it .

(B) A race car can move from rest position and its speed reaches 100 m/s through 20 seconds.

Calculate the acceleration of the car.

(C) 1 – What happens when:

a – A light ray incident by an angle 35° on a plane mirror.

b – The diameter of the eye becomes longer than a certain length.

2 – Write a paragroph itlustrates at the :

a – Relative speed.

b – Meant by displacement.

محافظة المنوفية - مديرية التربية والتعليم
امتحان شهادة إتمام الدراسة بمرحلة التعليم الأساسي
نصف العام - ٢٠١٨
الأسئلة في صفحتين (ص١)

الزمن
ساعتان

العلوم
بمدارس اللغات

تنبيه هام: الإجابات المتكررة عن الأسئلة الموضوعية لن تقدر ويتم تقدير الإجابات الأولى فقط

Answer the following questions

(Q1): (A): Write the scientific term for each of the following:-

1- A vector physical quantity its measuring unit is m/s^2.
2- A huge number of stars arranged in a distinctive shape.
3- A mass of cells that produced due to abnormal continuous division of cells.
4- A mirror can be used to get virtual upright magnified image of an object.
5- Ability of some animals to compensate their missing parts.
6- Continuous separation among galaxies in the universe due to their regular motion.

B) What happen in the following cases:-

1-A plane mirror fixed to the left of the driver instead of the convex mirror.
2- An object moves by uniform velocity related to its acceleration.

C) The opposite figure represents a vital phenomenon

1- What is this phenomenon? What's the importance of its occurrence?
2- By using the figure mention the phase at which the phenomenon occurs? What is the type of division does it belongs?

Q2):A) Choose from those between bracts:-

Short-sightedness leads to collecting rays (in front of – behind – above – below) the reti
A convex lens of 50 cm focal length, an object placed at a distance of 100 cm of it , so its age formed at (150 cm – 100 cm – 50 cm – 80 cm) of it.
umber of chromosomes in female gamete equal (quarter – half – the same – double) mber of chromosomes in the original cell
rom the reasons of cataract (genetic readiness –old age – drugs side effects – all the vious)
After few minutes of the big bang the ratio of hydrogen gas was (25– 50 –75- 100) % in verse.

Give reason for each:-

Distance between galaxies measured by light year
Before Mitoses cell division interphase takes place
Importance of speedometer in planes and cars

A Cheetah runs towards a deer at rest by a speed of 27 meters/ second till tches it after 10 seconds calculate:-

1- Distance covered by the Cheetah?
2- The acceleration by which the Cheetah moves?

بقية الأسئلة في الصفحة الثانية

(Q3): A) Correct the underlined words:-

1-The chromosome chemically composed of RNA and protein

2- The relative speed of two cars move in the same direction and by the same speed equal summation of their speed

3- The scientist Isaac Newton published a research entitled by world order in 1796 AC .

4- If the angle between incident ray and reflected ray of a plane mirror equals 140° so incident angle equals 40°

B) Describe motion of the body represented in the following graphs:-

Distance (m) / Time (sec) (1)

Speed (m/s) / Time (sec) (2)

Speed (m/s) / Time (sec) (3)

C) From the opposite figure:

1- Complete the figure to get an image for the object?

2- What are the properties of the formed image?

3- What happen if the object is moved and placed at the principal focus of the lens?

The object

M F F

(Q4): A) Complete the following by suitable words:-

1- Spindle fibers during cell division appears during .... phase

2- The galaxy to which solar system belongs named ....

3- The scientist .... established his theory about origin of solar system on the base of stars explosion phenomenon

4- .... image is the image can be received on a screen.

5- Meiotic division occurs in the anther of the flower to form male ....

6- Convex lens is used to treat some vision defects as ....

B) By using the graph that represents motion of an object explain:-

1- Speed of the object? Type of speed?

2- Time needed by the object to cover 15 meter

3- Distance covered by the object after 4 seconds

Distance (m): 5, 1, 15, 20, 25 — Time (sec): 0, 1, 2, 3, 4, 5

C) The opposite figure represents convex lens which one of the given rays pass:

1- parallel to principal axis

2- without refraction

3- passing through the principal focus

(1) (2) (3) F F

انتهت الأسئلة مع تمنياتنا بالتوفيق و النجاح

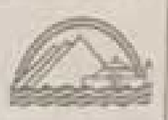


Giza Governorate

علوم – ٣ ع – الفصل الأول

The Educational Directorate

The Completion of Basic Education Certificate Exam



First Term 2017/ 2018

Science | **Time : 2 Hours**

Answer the following questions

The First Question

⇨ **A) Complete the following:**

1- The distance that a moving object covers within a unit time is known as ..speed...

2- The incident light ray parallel to the principal axis of a concave mirror reflects passing through .focus.........

3- The founder of the modern theory is the scientist ..Alfred..Hale

4- The scientists believe that the universe matter was a glowing gaseous ball of high pressure and high temperature.

B) What is meant by ..... ?

1- Displacement of an object equals 50 meter eastward.

2- The distance between the principal focus of a spherical mirror and its pole = 20 cm. focal length = 20 cm

C) Compare between: lenses and mirrors, concerning the definition.

They are transparent parts of hollow sphere, they refract light rays.

The Second Question

⇩ mirrors: they are shining surfaces [illegible] they reflect light rays.

A) Choose the right answer from those between the brackets:

1- If the speed of a car is 72 km / hour, this means its speed equals ..... m / s
[18 - 20 - 40]

2- If an object is placed at a distance less than the focal length of a concave mirror, a virtual upright .... image is formed.
[diminished - equal - magnified]

3- The ability of some living organisms (animals) to compensate their missing parts is known as ....
[budding - regeneration - sporogony]

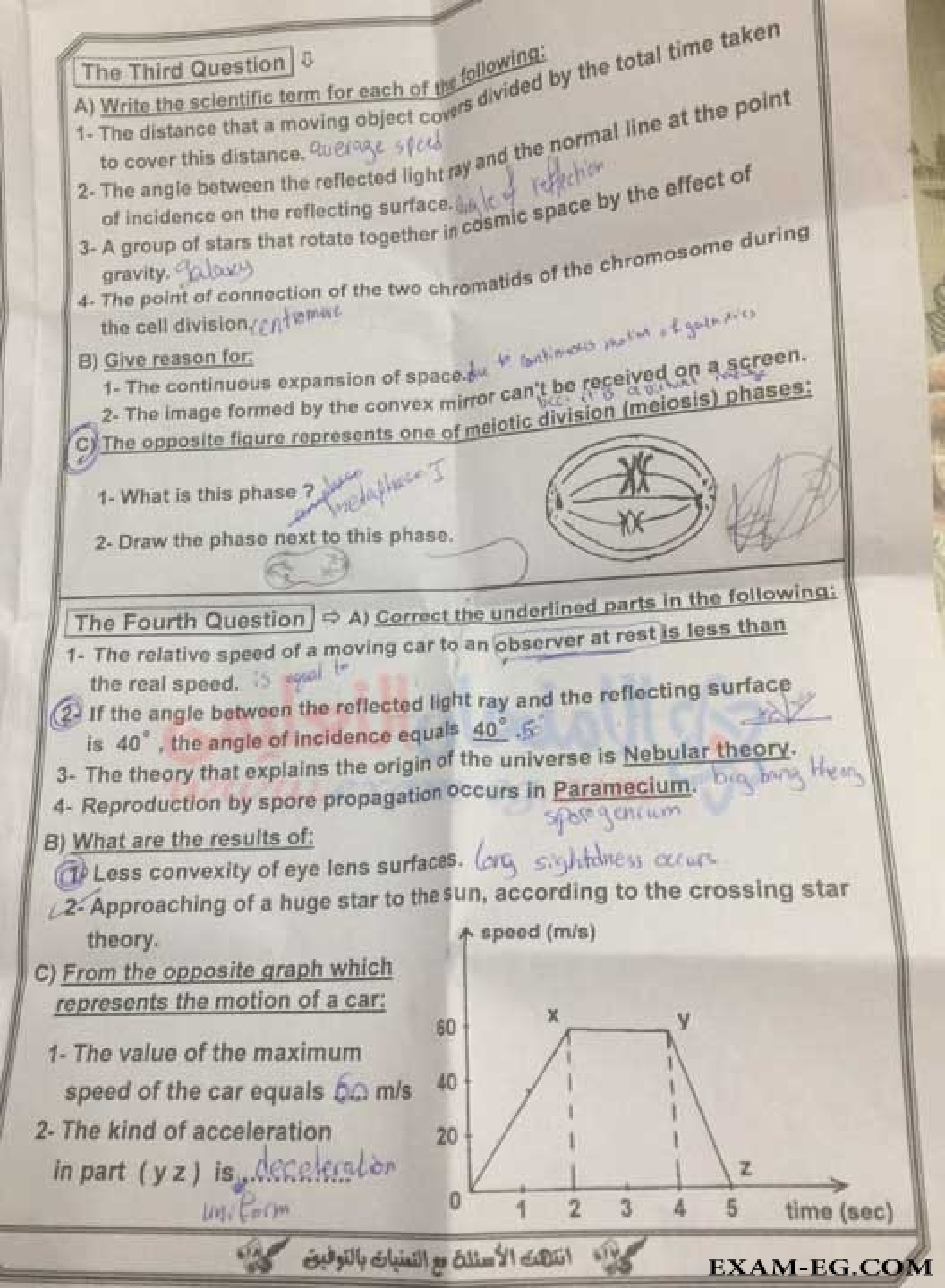
4- The spindle filaments appear during cell division in ....
[telophase - interphase - prophase]

B) Define each of the following:

1- The scalar physical quantity. magnitude and no direction

2- The crossing over phenomenon.

C) A car moved from rest, its speed became (25 m/s) during (10 seconds). Calculate its acceleration. deceleration = 2.5 m/s²



The Third Question ⇩

A) Write the scientific term for each of the following:

1- The distance that a moving object covers divided by the total time taken to cover this distance.

2- The angle between the reflected light ray and the normal line at the point of incidence on the reflecting surface.

3- A group of stars that rotate together in cosmic space by the effect of gravity.

4- The point of connection of the two chromatids of the chromosome during the cell division.

B) Give reason for:

1- The continuous expansion of space.

2- The image formed by the convex mirror can't be received on a screen.

C) The opposite figure represents one of meiotic division (meiosis) phases:

1- What is this phase ?

2- Draw the phase next to this phase.

The Fourth Question ⇨ A) Correct the underlined parts in the following:

1- The relative speed of a moving car to an observer at rest is less than the real speed.

2- If the angle between the reflected light ray and the reflecting surface is 40°, the angle of incidence equals 40°.

3- The theory that explains the origin of the universe is Nebular theory.

4- Reproduction by spore propagation occurs in Paramecium.

B) What are the results of:

1- Less convexity of eye lens surfaces.

2- Approaching of a huge star to the sun, according to the crossing star theory.

C) From the opposite graph which represents the motion of a car:

1- The value of the maximum speed of the car equals ...... m/s

2- The kind of acceleration in part (y z) is ....

انتهت الأسئلة مع التمنيات بالتوفيق

محافظة القليوبية
مديرية التربية والتعليم

المادة : العلوم (مترجم انجليزي)
الزمن : ساعتان

امتحان الفصل الدراسي الأول للإعدادية العامة لعام ٢٠١٨م

Answer the following questions:

1 A) Write the scientific term of the following sentences:

1- Specialized cells which produce gametes .
2- Changing the position of an object as the time passes according to a fixed point.
3- A point inside the lens that lies on the principal axis at mid distance between the faces of the lens .
4- Something that includes all galaxies, stars, planets and living organisms.
5- The speed of a moving body relative to a dynamic or a static observer.

B) A body moves in the path (ABCDEF) as in the opposite figure. Calculate:

1- The distance that the body moved.
2- Displacement of the body.

C) Give reasons for :

1- The force is a vector quantity
2- When the object is placed at the focus of a convex lens, the image is formed in the infinity .
3- There are no new races of grapes when they reproduce by vegetative reproduction.

2 A) Choose the correct answer :

1- The number of chromosomes in the gamete is .... the number of chromosomes in the original cell (equal to - half - quarter - double)
2- When the body covers equal distances in unequal periods of time, the speed will be .... (regular - decelerated – accelerated – irregular)
3- If the distance between two centres of curvature of the lens is 20 cm ,this means that the focal lens is .... (5 cm , 10 cm , 15 cm , 20 cm)
4- All the following cells contain full copy of genetic material except ....
(spore - bud - zygote – pollen grain)
5- The point at the middle of the reflecting surface of a spherical mirror is called ....
(focus of mirror – pole of mirror – centre of curvature – face of curvature)

B) A student takes a time of 15 minutes to reach his school when he moves at an average speed (2m/s). Calculate the total distance covered by the student when goes to school and returns back again to his starting point.

C) The opposite figure shows a vital phenomenon :

1- What is the name of this phenomenon ?
2- Mention the name of the phase in which this phenomenon occurs and mention the type of this division.
3- What is the importance of this phenomenon?

بقية الأسئلة في الورقة الثانية :

3 A) Put (✓) or (✗) in front of the following sentences:

1- Attraction force of the sun that controls the orbit of the planets around it is one of Laplace's assumptions. ( )
2- When the light ray falls in an angle of zero on the reflecting surface, the reflected light ray will be normal on the reflecting surface. ( )
3- When the body moves at constant speed , the acceleration will be regular. ( )
4- In the Big Bang theory , the universe is formed from gathering oxygen and hydrogen particles . ( )
5- The asexual reproduction keeps the genetic structure of living organisms . ( )

B) Write the assumptions of crossing star theory for the origin of the solar system (4 assumptions only)

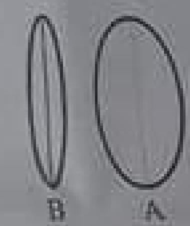
C) Mention the position of an object in front of a concave mirror if the formed image is :

1- real, inverted and magnified.
2- virtual, erect and magnified.
3- real, inverted and minimized.

4 A) What happens in :

1- an injured liver or cutting part of it .
2- the displacement of a moving body when it returns back to its starting point .
3- the speed of a body if it covers the same distance in half the time.
4- rupturing or cutting sporangium in bread mould fungus .
5- the distance between the image and the plane mirror when the body becomes closer to the mirror.

B) In the opposite figure , two eye lenses for two eyes equal in eye diameters for 2 different persons. Which of them has shortsightedness and why ?



C) Compare between

1- principal axis of spherical mirror and lens (according to their definitions)
2- Positive acceleration and negative acceleration (according to initial speed and final speed)
3- Crossing star theory and modern theory (according to the founder)

(Good luck)